

PRC Environmental Management, Inc.  
233 North Michigan Avenue  
Suite 1621  
Chicago, IL 60601  
312-856-8700  
Fax 312-938-0118



**PRELIMINARY ASSESSMENT/  
VISUAL SITE INSPECTION**

**TITANIUM METALS CORPORATION OF AMERICA  
TORONTO, OHIO  
OHD 098 435 134**

**FINAL REPORT**

US EPA RECORDS CENTER REGION 5



482393

**Prepared for**

**U.S. ENVIRONMENTAL PROTECTION AGENCY  
Office of Waste Programs Enforcement  
Washington, DC 20460**

Work Assignment No.	:	C05087
EPA Region	:	5
Site No.	:	OHD 098 435 134
Date Prepared	:	March 25, 1993
Contract No.	:	68-W9-0006
PRC No.	:	009-C05087OH3K
Prepared by	:	PRC Environmental Management, Inc. Sherry Gernhofer
Contractor Project Manager	:	Shin Ahn
Telephone No.	:	(312) 856-8700
EPA Work Assignment Manager	:	Kevin Pierard
Telephone No.	:	(312) 886-4448



## TABLE OF CONTENTS

<u>Section</u>	<u>Page</u>
EXECUTIVE SUMMARY .....	ES-1
1.0 INTRODUCTION .....	1
2.0 FACILITY DESCRIPTION .....	4
2.1 FACILITY LOCATION .....	4
2.2 FACILITY OPERATIONS .....	4
2.3 WASTE GENERATING PROCESSES .....	9
2.4 HISTORY OF DOCUMENTED RELEASES .....	11
2.5 REGULATORY HISTORY .....	12
2.6 ENVIRONMENTAL SETTING .....	14
2.6.1 Climate .....	14
2.6.2 Flood Plain and Surface Water .....	15
2.6.3 Geology and Soils .....	15
2.6.4 Ground Water .....	16
2.7 RECEPTORS .....	17
3.0 SOLID WASTE MANAGEMENT UNITS .....	18
4.0 AREAS OF CONCERN .....	27
5.0 CONCLUSIONS AND RECOMMENDATIONS .....	28
REFERENCES .....	37

### Attachments

- A EPA PRELIMINARY ASSESSMENT FORM 2070-12
- B VISUAL SITE INSPECTION SUMMARY AND PHOTOGRAPHS
- C VISUAL SITE INSPECTION FIELD NOTES

## LIST OF TABLES

<u>Table</u>		<u>Page</u>
1	SOLID WASTE MANAGEMENT UNITS (SWMU) .....	7
2	SOLID WASTES .....	10
3	SWMU AND AOC SUMMARY .....	36

## LIST OF FIGURES

<u>Figure</u>		<u>Page</u>
1	FACILITY LOCATION .....	5
2	FACILITY LAYOUT .....	8

RELEASED 4/21/99  
DATE 6/30/99  
RIN # MV  
INITIALS

ENFORCEMENT  
CONFIDENTIAL

## EXECUTIVE SUMMARY

PRC Environmental Management, Inc. (PRC) performed a preliminary assessment and visual site inspection (PA/VSI) to identify and assess the existence and likelihood of releases from solid waste management units (SWMU) and other areas of concern (AOC) at the Titanium Metals Corporation of America (Timet) facility in Toronto, Ohio. This summary highlights the results of the PA/VSI and the potential for releases of hazardous wastes or hazardous constituents from SWMUs and AOCs identified. In addition, a completed U.S. Environmental Protection Agency (EPA) Preliminary Assessment Form (EPA Form 2070-12) is included in Attachment A to assist in prioritization of RCRA facilities for corrective action.

Timet is a titanium metals processing plant that produces intermediate mill products in rolled sheet or tubular form. Approximately 75 percent of the facility's end products are used in the aircraft industry. The facility generates and manages nonhazardous waste lubricating oils, grinding swarf (titanium grinding residue), scrap metal, and baghouse blower dust. Before 1985, Timet used chlorinated solvents, such as carbon tetrachloride and 1,1,1-trichloroethane, for cleaning machine parts. Before 1991, the facility also generated a caustic kolene sludge.

The facility currently generates only the following nonhazardous wastes during the production of the titanium mill products: waste lubricating oils, waste kerosene, titanium swarf (grinding residue), scrap metal, baghouse dust, and waste pickling acids (which are sold as a feedstock to CM Tech of New Cumberland, West Virginia). Past waste generation includes spent chlorinated solvents and caustic kolene sludge.

Timet purchased the property from Ohio River Steel Company in 1957. Ohio River Steel Company operated a steel mill on the property for many years before Timet purchased the site. The facility occupies 51 acres in a mixed use area. Timet employs approximately 500 people.

The PA/VSI identified the following 8 SWMUs and 2 AOCs at the facility:

### Solid Waste Management Units

1. Drum Storage Area 1
2. Drum Storage Area 2
3. Baghouses (13 total)
4. Spent Acid Storage Tank 1
5. Spent Acid Storage Tank 2

RELEASED  
DATE 4/21/99  
RIN # 639-99  
INITIALS mv

6. Former Drum Storage Area
7. Former Spent Acid Storage Tank 1
8. Former Spent Acid Storage Tank 2

#### Areas of Concern

1. Swarf/Waste Oil Spill Area
2. Miscellaneous Drum Storage Area

In the mid-1980s, elevated levels of several volatile organic compounds (VOC) were detected in one or more of Timet's six drinking water and process wells. A gradual decrease in contaminant levels in the wells has been recorded since Timet stopped using 1,1,1-trichloroethane as a solvent in October 1985. Timet employees used on-site wells for drinking water before switching to the city system in the mid-1980s. The source of this contamination cannot confidently be attributed to the facility because no reportable spills of VOCs have been documented and all on-site drains are reported to drain to surface water.

The potential is low for a release of hazardous constituents to ground water from SWMUs 3, 4, 5, 6, 7, and 8. The potential is low to moderate for a release of hazardous constituents to ground water from AOCs 1 and 2. The potential is moderate for a release of hazardous constituents to ground water from SWMUs 1 and 2.

Ohio EPA (OEPA) cited Timet for five acid spills into the Ohio River over a 3-year period; however, Timet is not certain which of the acid storage tanks (SWMUs 4, 5, 7, or 8) contributed to the releases and specific information about where spills occurred was not documented. In an attempt to prevent future spills, the secondary containment has been upgraded with an acid-proof coating. OEPA also has recommended that the facility further upgrade the secondary containment by installing a splash curtain or by extending the height of the walls. In addition, Timet has reported numerous violations of final effluent limitations of its National Pollutant Discharge Elimination System (NPDES) permit. Between 1990 and 1991, Timet exceeded the final effluent limitations for titanium, cyanide, fluoride, suspended solids, copper, mercury, oil and grease, lead, and zinc. Timet currently is constructing a wastewater treatment system because they are unable to modify their processes to meet the effluent limitations for fluoride.

ENFORCEMENT  
CONFIDENTIAL



RELEASED  
DATE 4/21/99  
RIN # 639-99  
INITIALS WV

The potential is low for a release of hazardous constituents to surface water from SWMUs 3 and 6. The potential is low to moderate for a release of hazardous constituents to surface water from SWMUs 1 and 2, and AOC 2. The swarf/waste oil spill area (AOC 1) along the eastern perimeter of the facility has a high potential for release of hazardous constituents to surface water. The spilled material is located on exposed soils and no release control measures exist that would prevent the spilled material from migrating into the Ohio River.

The potential is low for a release of hazardous constituents to air from this facility.

The potential is low for a release of hazardous constituents to on-site soils from SWMUs 3, 4, 5, 6, 7, and 8. The potential is moderate for a release of hazardous constituents to on-site soils from SWMU 1. The potential is high for a release to on-site soils from the miscellaneous drum storage area (AOC 2), where some drums were stored on exposed soil. In addition, the unit had no form of secondary containment. Spills were observed at SWMU 2 and AOC 1.

Receptors of a potential release associated with the facility include Timet personnel and residents of the Toronto area. Approximately 1,500 individuals use ground water as a source of drinking water at factories within the Toronto city limits. The nearest wells are located within the facility boundaries and are used for process water only. There are approximately 11 private drinking water wells within 1 mile of the facility. Timet is bordered directly on the north by Jeddo Run (a small stream) and on the east by the Ohio River. These surface waters receive storm water and process waters from the facility. Residential areas lie within 0.5 mile of the facility. A chain-link fence surrounds the facility and 24-hour surveillance is provided, limiting access. No sensitive environments have been identified near the facility.

PRC recommends no further action at this time for SWMUs 3, 6, 7, and 8. PRC recommends that the facility construct diking around the paved areas of SWMUs 1 and 2 to prevent potentially spilled material from migrating to environmental media. PRC also recommends consolidating wastes on paved areas and labeling all drums and removing drums in poor condition. PRC also recommends that the spilled material in AOC 1 be remediated and that the facility discontinue storing drums in areas of AOC 2 that lack containment. The miscellaneous drums at AOC 2 should be moved to an area with adequate containment and soil sampling of semi-volatile and volatile organics and metals should be performed in areas where releases have been noted in both AOCs 1 and 2. PRC concurs with OEPA's recommendations for a splash curtain at SWMUs 4 and 5.



## **1.0 INTRODUCTION**

PRC Environmental Management, Inc. (PRC) received Work Assignment No. C05087 from the U.S. Environmental Protection Agency (EPA) under Contract No. 68-W9-0006 (TES 9) to conduct preliminary assessments (PA) and visual site inspections (VSI) of hazardous waste treatment and storage facilities in Region 5.

As part of the EPA Region 5 Environmental Priorities Initiative, the RCRA and CERCLA programs are working together to identify and address RCRA facilities that have a high priority for corrective action using applicable RCRA and CERCLA authorities. The PA/VSI is the first step in the process of prioritizing facilities for corrective action. Through the PA/VSI process, enough information is obtained to characterize a facility's actual or potential releases to the environment from solid waste management units (SWMU) and areas of concern (AOC).

A SWMU is defined as any discernible unit at a RCRA facility in which solid wastes have been placed and from which hazardous constituents might migrate, regardless of whether the unit was intended to manage solid or hazardous waste.

The SWMU definition includes the following:

- RCRA-regulated units, such as container storage areas, tanks, surface impoundments, waste piles, land treatment units, landfills, incinerators, and underground injection wells
- Closed and abandoned units
- Recycling units, wastewater treatment units, and other units that EPA has generally exempted from standards applicable to hazardous waste management units
- Areas contaminated by routine and systematic releases of wastes or hazardous constituents. Such areas might include a wood preservative drippage area, a loading-unloading area, or an area where solvent used to wash large parts has continually dripped onto soils.

An AOC is defined as any area where a release to the environment of hazardous waste or constituents has occurred or is suspected to have occurred on a nonroutine and nonsystematic basis. This includes any area where such a release in the future is judged to be a strong possibility.

The purpose of the PA is as follows:

- Identify SWMUs and AOCs at the facility.
- Obtain information on the operational history of the facility.
- Obtain information on releases from any units at the facility.
- Identify data gaps and other informational needs to be filled during the VSI.

The PA generally includes review of all relevant documents and files located at state offices and at the EPA Region 5 office in Chicago.

The purpose of the VSI is as follows:

- Identify SWMUs and AOCs not discovered during the PA.
- Identify releases not discovered during the PA.
- Provide a specific description of the environmental setting.
- Provide information on release pathways and the potential for releases to each medium.
- Confirm information obtained during the PA regarding operations, SWMUs, AOCs, and releases.

The VSI includes interviewing appropriate facility staff, inspecting the entire facility to identify all SWMUs and AOCs, photographing all visible SWMUs, identifying evidence of releases, initially identifying potential sampling parameters and locations, if needed, and obtaining all information necessary to complete the PA/VSI report.

This report documents the results of a PA/VSI of the Titanium Metals Corporation of America (Timet) facility in Toronto, Ohio. The PA was completed on March 3, 1992. PRC gathered and reviewed information from the Ohio Environmental Protection Agency (OEPA), Central Office and Southeast District Office (SEDO), and from EPA Region 5 RCRA files. The VSI was conducted on March 3, 1992. It included interviews with two facility representatives and a walk-through inspection of the facility. Eight SWMUs and two AOCs were identified at the facility.

PRC completed EPA Form 2070-12 using information gathered during the PA/VSI. This form is included in Attachment A. The VSI is summarized and 19 inspection photographs are included in Attachment B. Field notes from the VSI are included in Attachment C.

## **2.0 FACILITY DESCRIPTION**

This section describes the facility's location, past and present operations (including waste management practices), waste generating processes, history of documented releases, regulatory history, environmental setting, and receptors.

### **2.1 FACILITY LOCATION**

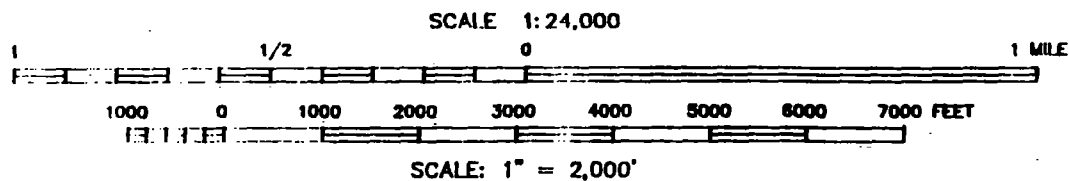
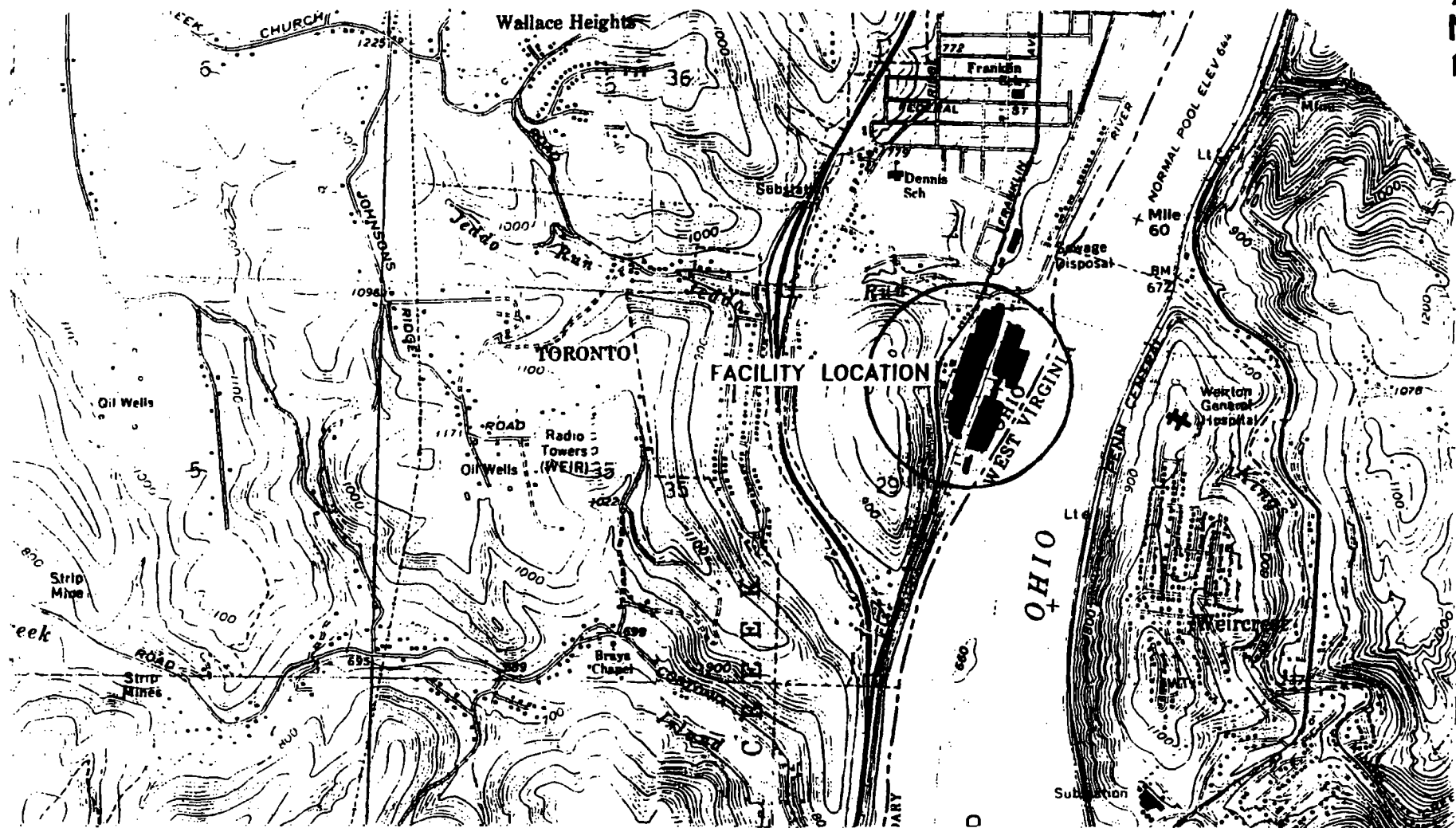
The Timet facility is located at 100 Titanium Way on the southern edge of Toronto, Jefferson County, Ohio (latitude 40°26'49" and longitude 80°36'28"), as shown in Figure 1. The facility occupies 51 acres in a mixed use area.

The Timet facility is bordered on the north by Jeddo Run (a small stream), on the west by Titanium Way, on the south by open land, and on the east by the Ohio River. The facility is surrounded by a chain-link fence. The facility is accessed through the front gate, on the northwestern portion of the property, and by railroad tracks running north to south through the center of the property.

### **2.2 FACILITY OPERATIONS**

The Timet facility is a titanium metals processing plant that produces intermediate mill products in rolled sheet or tubular form. Operations at the Timet facility have remained essentially unchanged from 1957 to the present. Titanium ingots are heated and then pressed into sheets. The sheets are shotblasted with steel BBs and sandblasted to clean them before they are immersed into pickling baths. The resulting materials are ground to specification. The pickling and grinding operations are repeated until exact tolerances are achieved. The end product is then rolled or pressed into sheets or tubes (Ecology and Environment (E&E), 1990).

The facility has operated at its current location since 1957 and employs about 500 people. Timet purchased the site from Ohio River Steel Company in 1957. Ohio River Steel Company operated a steel mill on the property for many years before Timet purchased the site (E&E, 1990). A large portion of the facility is occupied by three main buildings that are arranged to accommodate the production process. For instance, all bar finishing occurs on the southeastern portion of the property, while all bar forging occurs on the northeastern portion of the property. The facility is divided into eastern and western portions by railroad tracks and their right-of-way



Source: Modified from USGS, 1979, 1984

Titanium Metals Corporation  
Toronto, Ohio

**FIGURE 1**  
**FACILITY LOCATION**

**TMC** ENVIRONMENTAL MANAGEMENT, INC.

and has two active drum storage areas, two tank farms, a machine shop, a maintenance department, administrative offices, a hospital, and a paved parking lot near the entrance.

All wastes generated at the facility are disposed of off site. Nonhazardous waste lubricating oils are stored in 55-gallon drums in drum storage area 1 (SWMU 1). Grinding swarf (titanium grinding residue) is stored in 55-gallon drums or in steel bins in drum storage areas 1 and 2 (SWMUs 1 and 2). From mid-1960 to 1985, Timet used chlorinated solvents as a cleaning agent; the waste solvents were stored in SWMU 1. Since 1985, Timet uses only commercially available, unchlorinated cleaning agents. All waste solvents are still stored in SWMU 1. Spent pickling acids are collected in aboveground acid storage tanks (SWMUs 4 and 5) located within two tank farms on the southern portion of the facility. Product nitric and hydrofluoric acids used as constituents in the pickling process are stored in one of two tank farm areas contained outdoors within cement-lined pits. Two inactive tank farms (SWMUs 7 and 8) also were used as acid storage areas, before 1991. Thirteen baghouses (SWMU 3) are used at the facility to collect dust generated when titanium is sandblasted and shotblasted. This dust is stored in hoppers and is disposed of off site with the facility's trash. The facility generated a caustic kolene sludge, which was associated with a former pickling process. The sludge was stored in drums in the former drum storage area (SWMU 6). Facility SWMUs and their current status are identified in Table 1. The layout of the facility, including SWMUs and AOCs, is included as Figure 2.

Four 20,000-gallon underground storage tanks were located on the eastern portion of the facility; Timet used these tanks to store fuel oil used to generate heat and process steam. All four tanks were excavated and removed off site by ChemServ Environmental Company of Columbus, Ohio, in March 1990 (ChemServ, no date). ChemServ personnel reported that the piping on the tanks appeared to be in excellent condition; no holes, cracks, or rusting was observed on any of the tanks. The soil surrounding the tanks and piping did not show any evidence of any contamination. Soil sampling in the tank excavation area confirmed that no petroleum contamination in the soil could be attributed to the operation of the tanks. Earlier soil sample analysis, which found small amounts of total petroleum hydrocarbons (TPH), later was disproved by subsequent analysis. The later results are consistent with the initial on-site observations and field screening (ChemServ, no date).

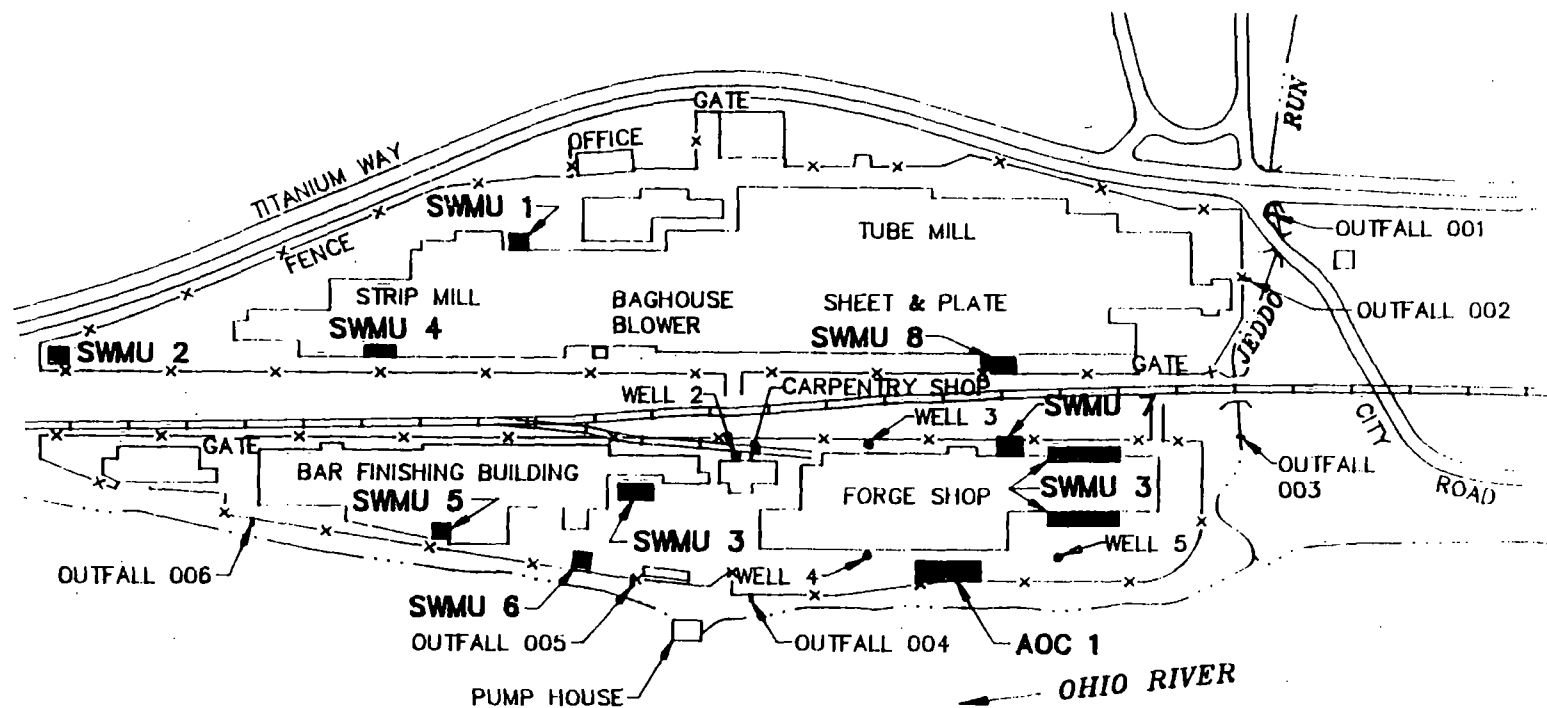
**TABLE 1**  
**SOLID WASTE MANAGEMENT UNITS (SWMU)**

<b>SWMU Number</b>	<b>SWMU Name</b>	<b>RCRA Hazardous Waste Management Unit*</b>	<b>Status</b>
1	Drum Storage Area 1	Yes	Active
2	Drum Storage Area 2	Yes	Active
3	Baghouses (13 total)	No	Active
4	Spent Acid Storage Tank 1	No	Active
5	Spent Acid Storage Tank 2	No	Active
6	Former Drum Storage Area	No	Inactive
7	Former Spent Acid Storage Tank 1	No	Inactive
8	Former Spent Acid Storage Tank 2	No	Inactive

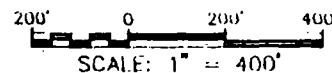
---

Note:

- \* A RCRA hazardous waste management unit is one that currently requires or formerly required submittal of a RCRA Part A or Part B permit application.
-



Note: AOC 2 is not noted specifically because it is located throughout the facility.





### 2.3

### WASTE GENERATING PROCESSES

The primary waste streams generated at the Timet facility are waste lubricating oils, grinding swarf, scrap metal, nonchlorinated cleaning agents, and baghouse dust, all of which are nonhazardous. The facility also generates spent pickling acids (D002) that are accumulated on site and sold as a feedstock to a separate company. The waste lubricating oils and grinding swarf (titanium grinding residue) are generated during the normal production of the different titanium mill products. The baghouse dust is generated from one of 13 baghouses that Timet uses to remove dust generated by the sandblasting and shotblasting of the titanium. Wastes generated at the facility are discussed below and are summarized in Table 2. Annual generation rates presented in this section are based on 1991 waste generation data.

During the production of titanium mill products, oils are used to lubricate machines that form the titanium. The waste lubricating oils are collected from the machines in 55-gallon drums and are stored in SWMUs 1 and 2. About 10,000 to 15,000 gallons of waste oil are generated every year (Turic, 1992a). The waste oils are hauled by ChemServ for disposal off site at Clark Oil in Dayton, Ohio.

A titanium grinding residue (swarf) is also generated as a result of the titanium forming process. The swarf results from the grinding of the titanium products after pickling. About 174 tons of titanium swarf are generated every year (Turic, 1992a). The swarf is stored in 55-gallon drums and in open bins in the drum storage areas (SWMU 2) until a quantity sufficient for burning is accumulated. Then the swarf is burned at the Anthony Mining Company, which is an abandoned strip mine located approximately 12 miles north of the plant (E&E, 1990).

A titanium dust also is generated when titanium mill products are formed. Timet uses 13 baghouses (SWMU 3) to collect dust generated when titanium is sandblasted or shotblasted. Approximately 223 tons of baghouse dust are generated every year (Turic, 1992a). This dust is stored in hoppers and is disposed of with the facility's trash at the Brook County Landfill in Brook County, West Virginia (Turic, 1992b).

The facility's pickling operations generate from 900,000 to 1,200,000 gallons of spent acid each year. This acid solution consists of 5 percent or less of hydrofluoric or nitric acid. The spent acid no longer is considered a solid waste per 40 CFR 261.2(e); it is sold to CM Tech, which



**TABLE 2**  
**SOLID WASTES**

<b>Waste/EPA Waste Code<sup>1</sup></b>	<b>Source</b>	<b>Primary Management Unit<sup>2</sup></b>
Waste lubricating oils/NA Kerosene/NA	Titanium mill product formation	SWMUs 1 and 2
Titanium swarf/NA Scrap metal/NA	Titanium mill product formation (titanium grinding residue)	SWMU 2
Baghouse dust/NA	Shotblasting and sandblasting of titanium	SWMU 3
Caustic kolene sludge/D002 <sup>3</sup>	Former pickling process	SWMU 6
Spent acid/D002 <sup>4</sup>	Pickling operations	SWMUs 4, 5, 7, and 8
Chlorinated solvents/F001	Former cleaning operations	SWMU 1

**Note:**

- <sup>1</sup> Nonapplicable (NA) designates nonhazardous waste.
- <sup>2</sup> Primary management unit refers to a SWMU that currently manages or formerly managed the waste.
- <sup>3</sup> The facility originally managed the kolene sludge as a hazardous waste (D002); however, later determined that the material was nonhazardous. The sludge is a solid, monolithic mass and is not able to be classified as a corrosive hazardous waste under RCRA Section 261.22.
- <sup>4</sup> The spent acid when disposed of was classified as a hazardous waste (D002), but the solution is now recycled by serving as a feedstock to an off-site manufacturing process and no longer meets the definition of a solid waste per 40 CFR 261.2(e).

uses the spent acid as a feedstock for its operations. The spent acid is stored in SWMUs 4 and 5 before being removed off site by tank trucks. Spent acid was formerly stored in aboveground tanks (SWMUs 7 and 8); they ceased operating in 1991.

Before June 1991, the facility generated approximately 880 gallons per month of a caustic kolene sludge (D002), which resulted from a former pickling process. The sludge was placed in SWMU 6 in 55-gallon drums and disposed of with the facility's trash in the Brook County Landfill or sent to Henderson, Nevada, for recycling (E&E, 1990).

Before 1985, Timet used chlorinated solvents (F001) as cleaning agents. The solvents were stored in 55-gallon drums in SWMU 1. The spent solvents either were recycled or placed in drums and removed by a licensed waste hauler (E&E, 1990). Currently, kerosene (a commercially available, nonchlorinated solvent) is used as a cleaning agent. The kerosene, which is used periodically to clean machine parts, is also collected in 55-gallon drums and stored in SWMUs 1 or 2. The spent kerosene is either recycled or removed by a licensed waste hauler 2 to 3 times per year (Turic, 1992a).

## **2.4 HISTORY OF DOCUMENTED RELEASES**

This section discusses the history of documented releases to ground water, surface water, air, and on-site soils at the Timet facility.

OEPA cited Timet for five acid spills into the Ohio River over a 3-year period. The Timet facility is not certain which of the acid storage tanks (SWMUs 4, 5, 7 or 8) contributed to the releases. The spills occurred on January 25, 1981; April 8, 1982; April 22, 1982; March 30, 1983; and August 1, 1983 (E&E, 1990). No other information is available concerning the reported spills.

On March 29, 1985, Timet applied to OEPA for a permit to install acid containment structures around all on-site acid tanks. OEPA granted the permit and the containment structures were installed (E&E, 1990). The upgraded containment structures consist of 2-foot-deep, concrete pits lined with an acid-proof coating. In 1990, OEPA recommended that the acid storage areas be further upgraded by installing splash curtains or an elevated containment wall that would prevent the migration of acid resulting from a potential rupture in any of the elevated tanks (Moschell, 1990a).

In the mid-1980s, OEPA detected trichloroethane, 1,1,1-trichloroethane, and 1,1-dichloroethane in one or more of Timet's six drinking water and process wells. The source of this contamination cannot confidently be attributed to the facility because Timet never reported any spills of these solvents, and a Timet representative states that all on-site drains lead to surface water. The Public Drinking Water Division of OEPA decided to monitor the wells and allow Timet to continue using them. Since 1984, volatile organic compound (VOC) analysis has been conducted on samples from wells at the Timet site. Maximum values for 1,1,1-trichloroethane, the most prevalent contaminant detected in the wells, have ranged from 220 micrograms per liter ( $\mu\text{g/L}$ ) (detected on November 13, 1984) to 105  $\mu\text{g/L}$  (detected on September 23, 1988). In general, a gradual decrease in contaminant levels in the wells has been recorded since Timet stopped using chlorinated solvents in October 1985 (E&E, 1990). In the mid-1980s, Timet switched to the city water supply system as a source of potable drinking water. Timet's on-site wells still are active, but they are now used for process water and not for potable water (Turic, 1992b).

During the VSI, PRC inspectors noted approximately 400 square feet of stained soils along the eastern edge of the property (AOC 1). PRC inspectors were informed by a Timet representative that the soil was stained by waste lubricating oil and swarf. The stained area was not contained and was not protected from erosion into the nearby Ohio River. In addition, numerous stray drums were stored throughout the facility (AOC 2). Although most of the drums were elevated on wooden pallets, there was no secondary containment present.

## **2.5 REGULATORY HISTORY**

Timet submitted a notification of hazardous waste activity to EPA on June 9, 1981 (E&E, 1990), and a RCRA Part A permit application on February 16, 1981 (U.S. EPA, 1981). The RCRA Part A permit application listed the following process codes and capacities: S01 (7,700 gallons), S01 (35,200 pounds), S01 (80,000 pounds), and D80 (1,548,800 cubic yards). The application also listed the following wastes: F001 and D002. The RCRA Part A permit application may be erroneous; no landfill (containing 1,548,800 cubic yards of waste) was discussed in any of Timet's files and no landfill was identified during the site inspection. The OEPA Hazardous Waste Facility Approval Board (HWFAB) approved the RCRA Part A permit application on December 29, 1981 (Vince, 1981). The Part A permit application was subsequently withdrawn by OEPA on October 7, 1983 (OEPA, 1983). Timet accomplished a quick closure (as

defined by EPA Region 5) for the drum storage area and HWFAB withdrew their permit on January 1984 (Moschell, 1988).

Initially Timet was operating under interim status as a large-quantity generator and as a treatment, storage, and disposal facility. Since the withdrawal of their RCRA Part A permit in 1983, Timet has been regulated as a large-quantity generator, storing wastes for less than 90 days. However, because the waste pickling acids no longer are managed as a waste and no other hazardous wastes are managed, the facility is no longer is generating hazardous waste (Kitchen, 1991).

In the past, Timet has been cited for several RCRA violations. These violations, observed during a series of OEPA inspections which occurred from 1982 through 1990, pertained mainly to deficiencies in documentation such as inspection logs, training records, waste analysis plans, and operating logs. In addition, OEPA has found deficiencies in Timet's housekeeping practices, which include containers in poor condition and hazardous waste containers lacking appropriate labels or accumulation dates (Moschell, 1982, 1983, 1988, 1990a, 1990b; Cotter, 1984; McCoy-Zumbro, 1984). OEPA also has recommended that Timet upgrade the secondary containment under the four tanks farms (SWMUs 4, 5, 7, and 8) and the truck loading areas adjacent to the raw and waste acid tanks to reduce the possibility of spills into the plant or into the Ohio River (Moschell, 1990a). No orders were issued as a result of the inspections and no outstanding violations remain.

Timet is required to have operating air permits. Timet holds several permits to operate an air contaminant source for its grinding, pickling, and descaling operations and for the burning of its swarf. The air containment sources have scrubbers that are used as emissions control devices (Turic, 1992c). The facility does not have a history of air permit compliance problems. No evidence was found indicating that residents have complained about odors emanating from the facility.

The facility is required to have a NPDES permit. A NPDES permit was issued for Timet's six outfalls on February 12, 1988. Three of the outfalls drain only surface water runoff from the plant grounds into the Ohio River, and the other three outfalls drain plant process water into Jeddo Run, which flows to the Ohio River. The expiration date of this NPDES permit was February 17, 1992. Timet's NPDES permit No. OIE00010\*DD was issued on February 12, 1988, was reissued on October 17, 1991, and is valid for 5 years. Timet has an extensive history of

noncompliance with respect to its NPDES effluent requirements. The facility has been found to be in noncompliance on numerous occasions with all final effluent limitations listed in NPDES Permit No. OIE00010\*DD. Recently, Timet reported violations of final effluent limitations for the following parameters at outfall 006: titanium, pH, cyanide, fluoride, suspended solids, copper, mercury, and oil and grease (OEPA, 1991). In addition, Timet reported violations of final effluent limitations for the following parameters at outfall 003: mercury, fluoride, titanium, cyanide, lead, and zinc (OEPA, 1991). On September 6, 1991 Timet was ordered by OEPA to comply with the final effluent limitations of its NPDES permit (OEPA, 1991). Currently, Timet is constructing a wastewater treatment facility in response to the issued orders. OEPA recommended this action because the facility was continually exceeding its effluent limitations for a variety of parameters. In addition, the facility did not foresee ever being able to reduce its fluoride levels because of its critical role in the processing of titanium. This Pickle Rinse Water Fluoride Treatment System will treat pickling rinse waters to meet the effluent limitations for fluoride. This alternative will require rinse water to be collected from nine separate sources scattered throughout the plant and then pumped to a central facility for treatment. The facility plans to discharge the treated wastewaters to the Ohio River. Currently, there is no CERCLA activity at the facility.

## **2.6 ENVIRONMENTAL SETTING**

This section describes the climate, flood plain and surface water, geology and soils, and ground water near the Timet facility.

### **2.6.1 Climate**

The climate in Jefferson County, Ohio, is continental. The climate is characterized by large annual, daily, and day-to-day fluctuations in temperature. Summers are relatively warm and humid, with temperatures exceeding 89 degrees Fahrenheit (°F) on an average of 16 days per year. Winters are cold and cloudy, with occasional subzero temperatures (ODNR, 1968). The average daily temperature is 54°F. The lowest average daily temperature is 39°F in December; the highest average daily temperature is 74°F in July (Northern Ohio Valley Air Authority [NOVAA], 1990). The total annual precipitation for the county is 53 inches. The 1-year, 24-hour rainfall value is 2.2 inches (U.S. Department of Commerce (DOC), 1963).

The prevailing wind direction is from the south. Average wind speed is highest in February, March, and May at 5 miles per hour (NOVAA, 1990).

#### **2.6.2 Flood Plain and Surface Water**

OEPA indicates that the northern tip of the facility lies within a 100-year flood plain (Snyder, 1992). Timet is topographically higher than the Ohio River and Jeddo Run. Most of the SWMUs are located toward the southern end of the property. None of the SWMUs are within the boundaries of the 100-year flood plain. The nearest surface water bodies are the Ohio River and Jeddo Run, which directly border the facility to the east and north, respectively. Jeddo Run is not used as a source of drinking water or for recreational purposes. Other small tributaries of the Ohio River exist within a 4-mile radius, but local topography precludes surface water runoff from the facility to any water bodies except Jeddo Run and the Ohio River (E&E, 1990).

The facility has six NPDES-permitted outfalls. Three of the outfalls drain only surface water runoff from the plant into the Ohio River; the other three outfalls drain plant process water into Jeddo Run.

Surface water intakes for the Wierton, West Virginia, municipal water system are located in the Ohio River, approximately 1.5 miles downstream of Timet. These intakes provide drinking water for 27,000 individuals in Wierton and the surrounding areas (E&E, 1990). The Steubenville, Ohio, municipal water system has water intakes just over 3 miles downstream of the facility. The Toronto, Ohio, surface water intakes are located upstream of Timet (E&E, 1990).

#### **2.6.3 Geology and Soils**

Jefferson County is located in the unglaciated Allegheny Plateau region of east-central Ohio. This area has been extensively dissected by drainages that empty into the Ohio River.

Pennsylvanian period sedimentary rocks of Allegheny, Conemaugh, and Monongahela formations and the Dunkard Group of the Permian period are found in this area of Ohio. Shale, limestone, clay, and sandstone are the most common kinds of bedrock outcropping in Jefferson County (ODNR, 1988).



Most soils in Jefferson County are well drained or moderately well drained, with much of the land in the county sloping very steeply. Slope and a severe hazard of erosion are major limitations of land use in the county. Site soils near the facility are classified as Urban-Land-Chaview complex soils. These soils typically are deep, well drained, and found on stream terraces of old alluvium. Permeability is moderately rapid (2 to 6 inches per hour).

The area closest to the river is classified as Nolin Silt Loam, occasionally flooded soils. These are deep, well-drained soils that occupy nearly level topography on stream flood plains. These soils formed in deposits of silty, recent alluvium. Permeability of these soils is characterized as moderate. Flooding is the primary hazard for soils located along the Ohio River and other streams. A few seasonally wet soils require drainage (ODNR, 1988).

#### **2.6.4 Ground Water**

Unconsolidated material in the area of the facility is composed of sand and gravel deposits originating from a glacial outwash and is overlain by alluvial silts and clays (E&E, 1990). These deposits range from 0 to 110 feet thick and occur only in the Ohio River Valley. The sand and gravel deposits are considered to be a single aquifer. Area well logs indicate that the first water bearing zone of sand and gravel is reached at approximately 40 feet (E&E, 1990).

Bedrock in the area is composed of undifferentiated layers of sandstone interbedded with shale, limestone, and coal. These bedrock formations are not regionally continuous but change from one locality to another (E&E, 1990). Well logs indicate that some layers used as sources of drinking water in the area may be confined, while other units contain perched water. However, because the bedrock might be fractured, the layers of bedrock are assumed to be connected hydraulically. Well logs also do not indicate a confining layer between the unconsolidated deposits and bedrock. The depth to this aquifer is approximately 49 feet. Based on surface topography, ground-water flow in the area is likely to flow to the east-southeast, toward the Ohio River (E&E, 1990).

Approximately 1,500 individuals use ground water as a source of drinking water at factories within the Toronto city limits. Timet employees formerly used on-site wells for drinking water before switching to the city system in the mid-1980s. Timet now uses the on-site wells for process water only.

The Timet facility occupies 51 acres in a mixed use area on the southern edge of Toronto, Jefferson County, Ohio. Toronto has a population of about 6,350 individuals (U.S.DOC, 1987 and 1988). The facility employs about 500 people.

The Timet facility is bordered on the north by Jeddo Run (a small stream), on the west by Titanium Way, on the south by open land, and on the east by the Ohio River. The nearest school, Dennis School, is located about 0.5 mile north of the facility. Facility access is controlled by fencing around the perimeter, 24-hour video surveillance, and on-site security guards.

The nearest surface water body, the Ohio River, borders the facility to the east. Fishing is extensive in the Ohio River and the area is widely used for recreational and commercial fishing (E&E, 1990). Other surface water bodies in the area include Jeddo Run, which borders the facility to the north and discharges to the Ohio River.

Surface water intakes for the Weirton, West Virginia, municipal water system are located in the Ohio River, approximately 1.5 miles downstream of Timet. These intakes provide drinking water for 27,000 individuals in Wierton and the surrounding areas (E&E, 1990). The Steubenville, Ohio, municipal water system has water intakes just over 3 miles downstream of the facility. The Toronto, Ohio, surface water intakes are located upstream of Timet (E&E, 1990).

The nearest drinking water well is located within the Timet property boundaries but is no longer used as a drinking water source. The nearest industrial water well also is located within the boundaries of the facility, and is active. There are approximately 11 private wells within 1 mile of the site; these are used for drinking water.

No sensitive environments are known to be located on or near the site. There are several ponds near the facility. These areas are predominantly palestrine wetlands in forested areas and are saturated seasonally. In addition, there are several perennial riverine wetland regimes scattered along Jeddo Run and the Ohio River (U.S. Department of the Interior [U.S. DOI], 1987).

### 3.0 SOLID WASTE MANAGEMENT UNITS

This section describes the eight SWMUs identified during the PA/VSI. The following information is presented for each SWMU: description of the unit, dates of operation, wastes managed, release controls, history of documented releases, and PRC observations.

#### **SWMU 1**

#### **Drum Storage Area 1**

**Unit Description:** Drum storage area 1 is located outdoors on the western portion of the facility. The unit stores 55-gallon and 5-gallon drums containing waste oil, kerosene, and lubricants (see Photograph 1). The unit measures 50 feet wide by 60 feet long and can store up to 0 to 800 drums. The unit is paved with asphalt and is surrounded by a chain-link fence (see Photograph No. 2). There is a floor drain in the center of the unit that has been plugged with a concrete sealant. It is unknown where the drain previously led (see Photograph No. 3).

**Date of Startup:** This unit began operating in 1980.

**Date of Closure:** The unit is active.

**Wastes Managed:** The unit manages nonhazardous waste oils, kerosene and lubricants. The wastes are stored in 55-gallon drums or in smaller, 5-gallon drums. Wastes from this unit eventually are picked up for disposal off site by various commercial waste disposal facilities. The last load from this unit was disposed of by ChemServ Environmental Company of Columbus, Ohio.

Before 1985, spent chlorinated solvents (F001) were stored in 55-gallon drums. They were either recycled or removed by licensed waste haulers.

**Release Controls:** The unit consists of an asphalted area that is surrounded by a chain-link fence. There is no diking or any other release control measures.

**History of Release:** No releases from this SWMU have been documented.



**Observations:** Most of the drums in this unit were in poor condition. Many of the drums showed signs of excessive wear and rusting. During the site inspection, there appeared to be saturated absorbent material on the floor of the unit. It is unknown whether the saturated material contained hazardous or nonhazardous constituents. PRC observed no cracks on the floor surface, although visibility of the floor surface was obscured by the absorbent.

**SWMU 2                      Drum Storage Area 2**

**Unit Description:** Drum storage area 2 is located outdoors on the southwestern portion of the facility. The unit holds waste oils, swarf, and scrap metal. The dimensions of the unit are approximately 100 feet wide by 500 feet long. The unit can store approximately 500 wooden crates (with a capacity of approximately 16 cubic feet) of scrap titanium, one thousand 55-gallon drums, and up to 8 steel bins (with a capacity of approximately 30 cubic feet) of titanium swarf (see Photograph Nos. 4, 5, and 6). The unit is paved with asphalt but contains some areas of exposed soil. The stored drums and steel bins rest predominantly on the paved areas; however, some containers rest on gravel-covered soils. No drains were observed near drum storage area 2.

**Date of Startup:** The unit began operating in 1965.

**Date of Closure:** The unit is active.

**Wastes Managed:** The unit manages titanium swarf, waste oil, titanium scrap; all are classified as nonhazardous. The wastes are stored in wooden crates (scrap metal), 55-gallon drums or in steel bins (titanium swarf). The swarf is stored at the site until a quantity sufficient for burning is accumulated, and then it is hauled to the abandoned strip mine at Anthony Mining Company where it is burned. The waste oil is stored in 55-gallon drums and is disposed of off site.

**Release Controls:** The unit has no release controls. Although the majority of the area is paved, there are several areas of exposed soil (see Photograph Nos. 7 and 8).

**History of Release:** Moderate amounts of spilled titanium swarf were observed on the asphalt and exposed soil during the site inspection (see Photograph No. 7). In addition, some drums were missing lids and had a brown oily substance seeping down the sides of the container (see Photograph No. 8).

**Observations:** The unit contained approximately twenty 55-gallon drums of waste oil, approximately 6 steel bins of swarf, approximately forty 55-gallon drums of titanium swarf, and numerous 55-gallon drums full of scrap titanium and other metals. In addition, there was titanium scrap stored in wooden crates adjacent to the unit; the scrap is shipped back to Nevada and melted back into ingots or sold to scrap dealers (Turic, 1992b). Evidence of release was noted. Although the steel bins appeared to be in good condition, there was spilled swarf surrounding the storage area. Many of the drums showed signs of excessive wear and rusting. At least one drum was open and had a brown oily substance seeping down the sides of the container.

### **SWMU 3**

#### **Baghouses (13 total)**

**Unit Description:** These units collect and store the dust generated by the sandblasting and shotblasting of titanium. There are nine baghouses located inside in the northern portion of the forge shop (see Photograph No. 9). Four baghouses are located outdoors on the north end of the bar finishing building (see Photograph No. 10). The units are made of steel and are tapered to a funnel shape at the bottom. Steel hoppers (approximately 20 cubic feet) are situated on the pavement below each baghouse and are used to collect and transport the dust for disposal. No floor drains were noted near any of the hoppers.

**Date of Startup:** The baghouses were installed in 1985.

**Date of Closure:** The units are active.

**Wastes Managed:** The units manage titanium dust that is generated by sandblasting and shotblasting of titanium. Wastes from the units are collected in portable

steel hoppers (see Photograph 11) and ultimately are disposed of off site with the facility's trash at the Brook County Landfill.

**Release Controls:** The baghouses are fully enclosed units that discharge into the hoppers from the bottom. The hoppers are lined with plastic that gathers around the bottom of the baghouses to minimize release of particulates into the air.

**History of Release:** No releases from this SWMU have been documented.

**Observations:** The hoppers appeared to be structurally sound and well maintained. No evidence of release was noted.

**SWMU 4                      Spent Acid Storage Tank 1**

**Unit Description:** The spent acid storage tank 1 is located outdoors on the southern portion of the property, adjacent to the strip mill building. The unit is an aboveground tank used to hold spent pickling acid (see Photograph Nos. 12 and 13). The spent acids are recyclable and eventually are sold as a feedstock to CM Tech. The tanks lie within an excavated, cement-lined pit that is 32 inches deep. The dimensions of the secondary containment are 40 feet wide by 16 feet long. The tank is constructed of carbon steel lined with polyvinyl chloride (PVC) and has a capacity of 8,000 gallons. The tank is situated on a steel platform within the pit. The tank is approximately 15 feet above the ground.

**Date of Startup:** This unit began operating in 1964.

**Date of Closure:** The unit is active.

**Wastes Managed:** The tank holds spent acids; these acids are recyclable and eventually are sold as a feedstock to CM Tech.

**Release Controls:** This unit rests within a 32-inch-deep concrete pit that acts as secondary containment. The concrete floor has an acid-proof coating to prevent leaks in case of a spill. No drains were observed in the vicinity of the tank.

There are no release control measures that would contain spilled material resulting from a rupture in the tank. If such a release occurred, the material would spray over the secondary containment.

**History of Release:** There have been at least five reported acid spills into the Ohio River; however, it is unknown which of the four acid storage areas contributed to the spills. No other information was available concerning the reported spills.

**Observations:** Both the holding tank and the secondary containment appeared to be in good condition; however, the tank did show a small amount of rusting. No cracks were visible in the concrete secondary containment. No evidence of release was noted.

**SWMU 5                      Spent Acid Storage Tank 2**

**Unit Description:** The spent acid storage tank 2 is located outdoors on the eastern portion of the property, adjacent to the bar finishing building. The unit consists of an aboveground tank used to hold spent pickling acid (see Photograph No. 14). The spent acids are recyclable and eventually are sold as a feedstock to CM Tech. The tank lies within an excavated, cement-lined pit that is 24 inches deep. The dimensions of the secondary containment are 34 feet wide by 44 feet long (see Photograph No. 15). The tank is constructed of carbon steel lined with PVC and has a capacity of 18,000 gallons. The tank is situated on a steel platform within the pit. The tank is approximately 15 feet above the ground.

**Date of Startup:** This unit began operating in 1969.

**Date of Closure:** This unit is active.

**Wastes Managed:** The tank holds spent pickling acids which are no longer managed as wastes because they are recyclable and sold as a feedstock to CM Tech.



**Release Controls:** This unit rests within a 24-inch-deep concrete pit that acts as secondary containment. The concrete floor has an acid-proof coating to prevent leaks in case of a spill. No drains were observed in the vicinity of the tank. There are no release control measures that would contain spilled material resulting from a rupture in the tank. If such a release occurred, the material would spray over the secondary containment.

**History of Release:** There have been at least five reported acid spills into the Ohio River; however, it is unknown which of the four acid storage areas contributed to the spills. No other information was available concerning the reported acid spills.

**Observations:** Both the holding tank and the secondary containment appeared to be in good condition; however, the tank did show a small amount of rusting. No cracks were visible in the concrete secondary containment. No evidence of release was noted.

#### **SWMU 6                      Former Drum Storage Area**

**Unit Description:** The former drum storage area is located outdoors on the eastern portion of the property. The unit was used to store 55-gallon drums containing caustic kolene sludge, which was generated from a former pickling process. The unit was a paved area approximately 50 feet wide by 20 feet long. The unit reportedly was capable of storing approximately 80 drums. A drain that leads to outfall No. 006 and eventually discharges to the Ohio River was observed near the former storage area (see Photograph No. 16) (Turic, 1992b).

**Date of Startup:** This unit began operating in 1969.

**Date of Closure:** The unit has been inactive since 1990.

**Wastes Managed:** This unit managed caustic kolene sludge, which was made up of potassium hydroxide, potassium nitrate, titanium oxides, and other contaminants, such as potassium carbonate. The sludge was stored in 55-gallon drums and

eventually disposed of with the facility's trash in the Brook County Landfill or sent to Henderson, Nevada, for recycling.

**Release Controls:** The unit was located on an asphalt-paved surface; no other release control measures were observed.

**History of Release:** No releases from this SWMU have been documented.

**Observations:** This unit was vacant during the inspection. The facility representative identified the approximate location of the former storage area. Small cracks in the asphalt were observed as well as a large drain near the former drum storage area. The drain leads to NPDES outfall No. 006 and discharges to the Ohio River. No evidence of release was noted.

**SWMU 7      Former Spent Acid Storage Tank 1**

**Unit Description:** The former spent acid storage tank 1 is located outdoors on the northern portion of the property, adjacent to the forge shop. The unit consists of a 10,860-gallon, aboveground tank that was used to hold spent pickling acid. The spent acids were recyclable and eventually were sold as a feedstock to CM Tech (see Photograph No. 17). The tank lies within an excavated, cement-lined pit that is 24 inches deep. The dimensions of the secondary containment are 88 feet long by 12 feet wide. The tank is constructed of carbon steel lined with Koroseal. The tank is scheduled to be decommissioned and removed in 1992.

**Date of Startup:** The unit began operating in 1967.

**Date of Closure:** The unit has been inactive since 1991.

**Wastes Managed:** This unit currently does not manage any wastes. The tank held spent pickling acids.

**Release Controls:** This unit rests within a 24-inch-deep concrete pit that acts as secondary containment. The concrete floor has an acid-proof coating to prevent leaks

in case of a spill. No drains are present near the tanks. There are no release control measures that would contain spilled material resulting from a rupture in the tank. If such a release occurred, the material would spray over the secondary containment.

**History of Release:** There have been at least five reported acid spills into the Ohio River; however, it is unknown which of the four acid storage areas contributed to the spills. No other information was available concerning the reported spills.

**Observations:** The unit was inactive and the holding tank was reported to be empty. The holding tank and the secondary containment appeared to be in good condition; however, the tank did show a small amount of rusting. No cracks were visible in the secondary containment. No evidence of release was noted.

**SWMU 8                      Former Spent Acid Storage Tank 2**

**Unit Description:** The former spent acid storage tank 2 is located outdoors on the northern portion of the property, adjacent to the sheet and plate building. The aboveground tank was used to hold spent pickling acid. The spent acids were recyclable and eventually were sold as a feedstock to CM Tech. The tank lies within an excavated pit that is 24 inches deep. The dimension of the secondary containment under this tank is 103 feet long by 15 feet wide. The waste pickling acid tank is made of carbon steel lined with Koroseal and has a capacity of 10,000 gallons. The tank is scheduled to be decommissioned and removed in 1992.

**Date of Startup:** The unit began operating in 1958.

**Date of Closure:** The unit has been inactive since 1991.

**Wastes Managed:** This unit currently does not manage any wastes. The tank was used to store spent pickling acids.

**Release Controls:** The tank rests within 24-inch-deep secondary containment that is made of concrete with an acid-proof coating. No drains are present near the tank. There are no release control measures that would contain spilled material resulting from a rupture in the tank. If such a release occurred, the material would spray over the secondary containment.

**History of Release:** There have been at least five reported acid spills into the Ohio River; however, it is unknown which of the four acid storage areas contributed to the spills. No other information was available concerning the reported spills.

**Observations:** The unit was inactive and the holding tank was reported to be empty. The holding tank and the secondary containment appeared to be in good condition; however, the tank did show a small amount of rusting. No cracks were visible in the secondary containment. No evidence of release was noted.

#### **4.0 AREAS OF CONCERN**

PRC identified 2 AOCs during the PA/VSI. These are discussed below.

##### **AOC 1**

##### **Swarf/Waste Oil Spill Area**

An area of stained soils, approximately 400 square feet, was observed on the northeastern portion of the property, adjacent to the Ohio River. An oily sheen was observed on an area of pooled water (see Photograph No. 18). PRC inspectors were informed by a Timet representative that the soil was stained by waste lubricating oil and swarf. The AOC had no containment capable of preventing runoff from entering the nearby Ohio River (see Photograph No. 19). This area was identified as an AOC because of its proximity to the Ohio River and because of waste material apparent on the soils.

##### **AOC 2**

##### **Miscellaneous Drum Storage Area**

In addition to drum storage areas 1 and 2 (SWMUs 1 and 2), there were numerous stray drums stored in other areas of the facility property (see Photograph No. 8). Most of the drums were elevated on wooden pallets; the areas were not designated as specific drum storage areas and had no release controls. In addition, several drums were in poor condition, with signs of excessive wear and rusting. At least one drum was open and had a brown oily substance seeping down the sides of the container. This unit was identified as an AOC because of the random storage practices, lack of release controls, and poor conditions of the drums. It is unknown what was contained within the drums.

RELEASED  
DATE 4/21/99  
RIN # 639-99  
INITIALS AV

ENFORCEMENT  
CONFIDENTIAL

**5.0 CONCLUSIONS AND RECOMMENDATIONS**

The PA/VSI identified 8 SWMUs and 2 AOCs at the Timet facility. Background information on the facility's location, operations, waste generating processes, release history, regulatory history, environmental setting, and receptors is presented in Section 2.0. SWMU-specific information, such as the unit's description, dates of operation, wastes managed, release controls, history of documented releases, and observed condition, is presented in Section 3.0. AOCs are discussed in Section 4.0. Following are PRC's conclusions and recommendations for each SWMU and AOC. Table 3 summarizes the SWMUs and AOCs at the Timet facility and recommended further actions.

**SWMU 1                      Drum Storage Area 1**

**Conclusions:**                      This unit stores drums of waste oil, kerosene, and lubricants. The unit rests on a paved area that is surrounded by a chain-link fence; however, there are no release controls. Many of the drums contained in this unit had excessive rusting and were unlabeled. A plugged drain is located in the center of the unit. A small spill was noted during the site inspection; absorbent material was observed on the floor of the unit. The potential for release to environmental media is detailed below.

**Ground Water:** Moderate. The unit is paved and nearby floor drains have been plugged. No release controls are present that would prevent spilled material from migrating to exposed soil, which is located approximately 100 feet to the west, and then to ground water.

**Surface Water:** Low to Moderate. The location of the unit, on the far side of the strip mill building, would preclude rapid migration of spilled material to the nearby Ohio River or Jeddo Run. A potential does exist for spilled material to migrate to on-site storm sewer drains, which discharge to the Ohio River.

**Air:** Low. This unit does not store compounds that are likely to be volatile.

ENFORCEMENT  
CONFIDENTIAL

RELEASED  
DATE 4/21/99  
RIN # 639-99  
INITIALS WV

On-Site Soils: Moderate. The unit is paved. No diking is present that would prevent spilled material from migrating to exposed soil, which is located approximately 100 feet away.

**Recommendations:**

PRC recommends that the facility construct diking around the unit to serve as containment of potentially spilled material. PRC also recommends labeling all drums and removing drums in poor condition.

**SWMU 2**

**Drum Storage Area 2**

**Conclusions:**

This unit is used to store waste oils, swarf, and scrap metal. The unit rests on an area that is partially paved; however, there are no release controls that would contain spilled material. Many of the drums contained in this unit had excessive rusting and were unlabeled. Many drums were stored on pallets on areas of exposed soil. In addition, moderate amounts of spilled swarf were noted during the site inspection. The potential for release to environmental media is detailed below.

Ground Water: Moderate. The unit is only partially paved, and exposed soils are adjacent to the unit. No release controls are present, which increases the potential for migration to ground water due to soil flushing during rain events.

Surface Water: Low to Moderate. The location of the unit, on the south side of the facility, would prevent rapid migration of spilled material to the nearby Ohio River or Jeddo Run. A potential does exist for spilled material to migrate to on-site storm sewer drains, which discharge to the Ohio River.

Air: Low. This unit does not store compounds that are likely to be volatile.

On-Site Soils: High. During the site inspection, moderate amounts of spilled swarf were noted on exposed soils.

RELEASED  
DATE 4/21/99  
RIN # 1239-99  
INITIALS un

**Recommendations:**

PRC recommends that the facility pave the entire area or store waste only in areas that are paved. In addition, the facility should construct diking around the paved portions of the unit to prevent potentially spilled material from migrating to exposed soils adjacent to the unit. PRC also recommends consolidating wastes and storing them in a specific area that is paved. The facility should also label all drums and remove drums in poor condition.

**SWMU 3**

**Baghouses (13 total)**

**Conclusions:**

The baghouses are used to collect and store dust generated from the sandblasting and shotblasting of titanium. All of the baghouses appeared in good condition and were well maintained. Each collection hopper had a disposable plastic liner. The resulting dust is collected until the hopper is full, and then disposed of off site with the facility's trash. The unit has a low potential for release to ground water, surface water, air, and on-site soils. The dust is nonhazardous and is not likely to pose a threat to any medium.

**Recommendations:**

PRC recommends no further action for this SWMU.

**SWMU 4**

**Spent Acid Storage Tank 1**

**Conclusions:**

This unit consists of an aboveground tank used to hold spent pickling acids. The unit appeared to be in good condition and well maintained, with minimal rusting evident on the holding tank. The unit has a 32-inch deep concrete containment area that has an acid-proof coating. No cracks or other signs of excessive wear were noticed in the secondary containment. OEPA has recommended installing a splash curtain or extending the height of the wall of the secondary containment. The potential for release to environmental media is detailed below.

**Ground Water:** Low. The holding tank is within secondary containment that would hold any dripped material. In addition, the unit is located on a paved area between the strip mill and bar finishing buildings.

ENFORCEMENT  
CONFIDENTIAL



RELEASED  
DATE 9/21/99  
RIN # Q39-99  
INITIALS mv

**Surface Water:** There have been at least five reported acid spills into the Ohio River; however, it is unknown which of the four acid storage areas (SWMUs 4, 5, 7 or 8) contributed to the spills. No additional information concerning the reported spills was available.

**Air:** Low. This unit does not store volatile compounds.

**On-Site Soils:** Low. The elevated holding tank is within secondary containment that would hold any dripped material. In addition, the unit is located on a paved area between the strip mill and bar finishing buildings. No exposed soils were noted near the unit.

**Recommendations:** PRC concurs with OEPA's recommendation of a splash curtain.

**SWMU 5** **Spent Acid Storage Tank 2**

**Conclusions:** This unit consists of an aboveground tank used to hold waste pickling acids. The unit appeared to be in good condition and well maintained, with minimal rusting evident on the holding tank. This unit has a 24-inch concrete containment area that has an acid-proof coating. No cracks or other signs of excessive wear were noticed in the secondary containment. OEPA has recommended installing a splash curtain or extending the height of the wall of the secondary containment. The potential for release to environmental media is detailed below.

**Ground Water:** Low. The holding tank is within secondary containment that would hold any dripped material. In addition, the unit is located on a paved area, adjacent to the east side of the bar finishing building.

RELEASED 4/21/99  
DATE  
RIN # 639-99  
INITIALS mv

**Surface Water:** There have been at least five reported acid spills into the Ohio River; however, it is unknown which of the four acid storage areas contributed to the spills. No additional information concerning the reported spills was available.

**Air:** Low. This unit does not store volatile compounds.

**On-Site Soils:** Low. The elevated holding tank is within secondary containment that would hold any dripped material. In addition, the unit is located on a paved area adjacent to the east side of the bar finishing building.

**Recommendations:** PRC concurs with OEPA's recommendation for a splash curtain.

**SWMU 6                      Former Drum Storage Area**

**Conclusions:** The unit was a paved area used to store the caustic kolene sludge (potassium hydroxide, potassium nitrate, titanium oxides, and other contaminants generated from a former pickling process). During the site inspection, no remnants of the unit remained. The unit has a low potential for release to ground water, surface water, air, and on-site soils. The kolene sludge was considered nonhazardous and was not likely to pose a threat to any medium.

**Recommendations:** PRC recommends no further action for this SWMU.

**SWMU 7                      Former Spent Acid Storage Tank 1**

**Conclusions:** The former spent acid storage tank 1 currently is inactive. The unit consists of an aboveground tank that was used to hold waste pickling acids. The unit is scheduled to be dismantled and removed off site. During the site inspection, the unit appeared to be in good condition and well maintained, with minimal rusting evident on the holding tank. The unit has a 24-inch deep concrete containment area that has an acid-proof coating. No cracks or other signs of excessive wear were noticed in the

ENFORCEMENT  
CONFIDENTIAL

RELEASED  
DATE 4/21/99  
RIN # C29-99  
INITIALS WV

secondary containment. During the VSI, the holding tank was reported to be empty. The unit has a low potential for release to ground water, surface water, air, and on-site soils. The holding tank is empty and is not likely to pose a threat to any medium. There have been at least five reported acid spills into the Ohio River; however, it is unknown which of the four acid storage areas contributed to the spilled material. No additional information concerning the reported spills was available.

**Recommendations:** PRC recommends no further action for this SWMU.

**SWMU 8                      Former Spent Acid Storage Tank 2**

**Conclusions:** The former spent acid storage tank 2 is currently inactive. The unit consists of an aboveground tank that was used to hold waste pickling acids. The unit is scheduled to be dismantled and removed off site. During the site inspection, the unit appeared to be in good condition and well maintained, with minimal rusting evident on the holding tank. The unit has a concrete containment area that has an acid-proof coating. No cracks or other signs of excessive wear were noticed in the secondary containment. During the VSI, the holding tank was reported to be empty. The unit has a low potential for release to ground water, surface water, air, and on-site soils. The holding tank is empty and is not likely to pose a threat to any medium. There have been at least five reported acid spills into the Ohio River; however, it is unknown which of the four acid storage areas contributed to the spilled material. No additional information concerning the reported spills was available.

**Recommendations:** PRC recommends no further action for this SWMU.

ENFORCEMENT  
CONFIDENTIAL

RELEASED  
DATE 9/21/99  
RIN # 039-99  
INITIALS WV

**AOC 1                      Swarf/Waste Oil Spill Area**

**Conclusions:**                      Soil in this area was stained dark and appeared to be covered with swarf and saturated with oil. This area had no release control measures that would prevent runoff into the adjacent Ohio River. The potential for release to environmental media is detailed below.

**Ground Water:** Low to Moderate. Although the contaminated area is within exposed soil, the majority of the residual waste is solid and resistant to flow. It is not expected to migrate to ground water. However, it is apparent that petroleum products are intermixed with the swarf, and contaminants may migrate through the soils during rain events.

**Surface Water:** High. There are no release control measures present that would prevent the migration of spilled material into the nearby Ohio River.

**Air:** Low. The majority of the residual waste is solid and unlikely to become volatile. Any volatile wastes that were potentially present are likely to have already volatilized.

**On-Site Soils.** The area of contamination rests directly on exposed soils.

**Recommendations:**              PRC recommends that the spilled material be remediated and soil sampling for semi-volatile and volatile organics and metals be performed to ensure that no residual contamination exists.

**AOC 2                      Miscellaneous Drum Storage Area**

**Conclusions:**                      Numerous stray drums were observed stored in random areas throughout the facility property. No release control measures were in place that would contain a release from a leaking drum. It is unknown what was contained within the drums. The potential for release to environmental media is described below.

RELEASED  
DATE 4/21/99  
RIN # 689-99  
INITIALS mv

Ground Water: Moderate. Many of the drums were stored on exposed soil and the water table is expected to be shallow. Contamination may migrate due to infiltration of contaminants through soil during rain events.

Surface Water: Low to Moderate. The small quantity of material contained within an individual drum makes it unlikely that potentially spilled material would migrate to surface water. However, due to poor management practices, it is likely that individual drums would be stored adjacent to surface water bodies, which would increase the potential for release.

Air: Low. The material stored within the drums is unlikely to be volatile. Any volatile wastes that were potentially present are likely to have already volatilized.

On-Site Soils: High. It is likely that spilled material could migrate to on-site soils because of the lack of any release control measures. The threat is increased due to the facility's practice of storing drums on areas of exposed soil. In addition, some drums did not have lids.

**Recommendations:**

PRC recommends that the facility discontinue storing drums in areas lacking secondary containment. The drums should be relocated to an area with adequate release control measures. If an appropriate storage area is currently not available, PRC recommends that the facility construct a unit with appropriate release control measures (diking around the unit) to prevent any releases from reaching environmental media. In addition, PRC recommends that the facility conduct soil sampling for semi-volatile and volatile organics and metals in areas where releases have been noted.

RELEASED

DATE

RIN #

INITIALS

5/21/99  
634599  
MV

ENFORCEMENT  
CONFIDENTIAL

TABLE 3

## SWMU AND AOC SUMMARY

SWMU	Dates of Operation	Evidence of Release	Recommended Further Action
1. Drum Storage Area 1	1980 - present	Yes	Construct diking around the unit to provide containment. Remove rusting drums and label stored drums.
2. Drum Storage Area 2	1965 - present	Yes	Pave area or store wastes only on paved area and construct diking around paved portions of the unit. Remove rusting drums, label drums.
3. Baghouses (13 total)	1985 - present	No	No further action at this time.
4. Spent Acid Storage Tank 1	1964 - present	Yes	Install splash curtain as recommended by OEPA.
5. Spent Acid Storage Tank 2	1969 - present	Yes	Install splash curtain as recommended by OEPA.
6. Former Drum Storage Area	1969-1990	No	No further action at this time.
7. Former Spent Acid Storage Tank 1	1967 - 1991	Yes	No further action at this time.
8. Former Spent Acid Storage Tank 2	1958 - 1991	Yes	No further action at this time.
AOC	Dates of Operation	Evidence of Release	Recommended Further Action
1. Swarf/Waste Oil Spill Area	Unknown - present	Yes	Remediate area and perform soil sampling for semi-volatile and volatile organics and metals analyses.
2. Miscellaneous Drum Storage Area	Unknown - present	Yes	Discontinue storing drums in areas lacking secondary containment, move drums to area with adequate secondary containment, and perform soil sampling for semi-volatile and volatile organics and metals analyses.

## REFERENCES

- ChemServ Environmental Company, no date provided. Closure Report for Titanium Metals Corporation, Toronto, Ohio.
- Cotter, Paula T., Enforcement Coordinator, Ohio Environmental Protection Agency (OEPA), Division of Hazardous Materials Management, 1984. Letter to Thad Kucherawy, Titanium Metals Corporation, February 13.
- Ecology & Environment (E&E), 1990 Screening Site Inspection Report for Titanium Metals, Toronto, Ohio, April 27.
- Kitchen, Edward A., 1991. Correspondence to Stephen N. Haughey of Frost and Jacobs regarding the reuse of titanium hydrofluoric acid solution, August 29.
- McCoy-Zumbro, Marilyn, Environmental Scientist, OEPA, Division of Solid & Hazardous Waste Management, 1984. Letter to Ed Offord, Titanium Metals Corporation, December 13.
- Moschell, Michael, Environmental Scientist, OEPA, Division of Hazardous Materials Management, 1982. Letter to Deborah Stauver, Titanium Metals Corporation of America, May 10.
- Moschell, Michael, Inspector, OEPA, Division of Hazardous Materials Management, 1983. Letter to Hiram Cotton, Titanium Metals Corporation, May 11.
- Moschell, Michael, Inspector, OEPA, Division of Solid & Hazardous Waste Management, 1988. Letter to Ed Offord, Titanium Metals Corporation, June 20.
- Moschell, Michael, Inspector, OEPA, Division of Solid & Hazardous Waste Management, 1990a. Letter to Harry Turic, Titanium Metals Corporation, August 14.
- Moschell, Michael, Inspector, OEPA, Division of Solid & Hazardous Waste Management, 1990b. Letter to Harry Turic, Titanium Metals Corporation, December 26.
- Northern Ohio Valley Air Authority (NOVAA), 1990.
- Ohio Department of Natural Resources (ODNR), 1968. Ohio Department of Natural Resources Climatological Summary, May.
- ODNR, 1988. Progress Report Number 83, Jefferson County Soil Survey.
- OEPA, 1983. Division of Hazardous Materials Management, Hazardous Waste Installation and Operation Permit Withdrawal Request Transmittal for Timet, October 7.
- OEPA, 1991. Director's Final Findings and Orders, In the Matter of: Titanium Metals Corporation, 100 Titanium Way, P.O. Box 309, Toronto, Ohio, September 6.
- Offord, Edward L., 1992. Correspondence to Ms. Patsy DeLuca, Director of the North Ohio Valley Air Authority, January 15.

- Snyder, Doug, OEPA, Southeast District, 1992. Telephone conversation with Dorothea Richardson of PRC, June 9.
- Turic, Harry L., 1992a. Telephone conversation with Sherry Gernhofer of PRC, April 1.
- Turic, Harry L., 1992b. Response to request for information by Sherry Gernhofer of PRC, May 11.
- Turic, Harry L., 1992c. Telephone conversation with Sherry Gernhofer of PRC, June 5.
- U.S. Department of Commerce (DOC), 1963. Rainfall Frequency Atlas of the United States. Technical Paper No. 40, U.S. Government Printing Office, Washington, D.C.
- U.S. DOC, Census Bureau, 1987. Per Capita Income Estimates for Counties and Incorporated Places.
- U.S. DOC, Census Bureau, 1988. Population Estimates for Counties and Incorporated Places.
- U.S. EPA, 1981. Hazardous Waste Permit Application, February 16.
- U.S. Department of the Interior, Fish and Wildlife Service, 1987. National Wetlands Inventory, Wierton, WVA-VA-PA-OH and Knoxville, OH.
- Vince, Peggy J., 1981. Approval of Titanium Metals Corporation's Hazardous Waste Facility and Installation and Operation Permit by OEPA's Hazardous Waste Facility Approval Board, December 29.



**ATTACHMENT A**

**EPA PRELIMINARY ASSESSMENT FORM 2070-12**



POTENTIAL HAZARDOUS WASTE SITE  
PRELIMINARY ASSESSMENT  
PART 1 - SITE INFORMATION AND ASSESSMENT

I. IDENTIFICATION

01 STATE  
OH

02 SITE NUMBER  
008435134

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)  
Titanium Metals Corporation

02 STREET, ROUTE NO. OR SPECIFIC LOCATION IDENTIFIER  
100 Titanium Way

03 CITY  
Toronto

04 STATE  
OH

05 ZIP CODE  
43964

06 COUNTY  
Jefferson

07 COUNTY  
CODE  
081

08 CONG  
DIST  
18

09 COORDINATES: LATITUDE  
40°26'49"N

LONGITUDE  
80°36'28"W

10 DIRECTIONS TO SITE (Starting from nearest public road)  
From Columbus, Ohio, take Interstate 70 east to Route 7 north into Toronto.

III. RESPONSIBLE PARTIES

01 OWNER (If known)  
Titanium Metals Corp. of America

02 STREET (Business, mailing, residential)  
Unknown

03 CITY

04 STATE

05 ZIP CODE

06 TELEPHONE NUMBER

07 OPERATOR (If known and different from owner)  
Same as above

08 STREET (Business, mailing, residential)  
100 Titanium Way

09 CITY  
Toronto

10 STATE  
OH

11 ZIP CODE  
43964

12 TELEPHONE NUMBER  
(614) 537-5775

13 TYPE OF OWNERSHIP (Check one)

☒ A. PRIVATE

☐ B. FEDERAL:

(Agency Name)

☐ C. STATE

☐ D. COUNTY

☐ E. MUNICIPAL

☐ F. OTHER

(Specify)

☐ G. UNKNOWN

14. OWNER/OPERATOR NOTIFICATION ON FILE (Check all that apply)

☐ A. RCRA 3010 DATE RECEIVED: 08/09/81  
MONTH DAY YEAR

☐ B. UNCONTROLLED WASTE SITE (CERCLA 103 c) DATE RECEIVED: / /  
MONTH DAY YEAR

☐ C. NONE

IV. CHARACTERIZATION OF POTENTIAL HAZARD

01 ON SITE INSPECTION

BY (Check all that apply)

☐ A. EPA

☒ B. EPA CONTRACTOR

☐ C. STATE

☐ D. OTHER CONTRACTOR

☒ YES

DATE 03/03/92

☐ E. LOCAL HEALTH OFFICIAL

☐ F. OTHER:

(Specify)

☐ NO

CONTRACTOR NAME(S): PRC Environmental Management, Inc.

02 SITE STATUS (Check one)

☒ A. ACTIVE

☐ B. INACTIVE

☐ C. UNKNOWN

03 YEARS OF OPERATION

1957 | present  
BEGINNING YEAR ENDING YEAR

☐ UNKNOWN

04 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED

At least five acid spills into the Ohio River reported; source not determined. Facility also manages waste oils, baghouse blower dust, and swarf (titanium grinding residue), all nonhazardous.

05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION

Moderate potential for release of acid into the Ohio River and Jeddo Run.

V. PRIORITY ASSESSMENT

01 PRIORITY FOR INSPECTION (Check one. If high or medium is checked, complete Part 2 - Waste Information and Part 3 - Description of Hazardous Conditions and Incidents.)

☒ A. HIGH

(Inspection required promptly)

☐ B. MEDIUM

(Inspection required)

☐ C. LOW

(Inspect on time-available basis)

☐ D. NONE

(No further action needed; complete current disposition form)

VI. INFORMATION AVAILABLE FROM

01 CONTACT  
Kevin Pierard

02 OF (Agency/Organization)  
U.S. EPA Region 5

03 TELEPHONE NUMBER  
(312) 886-4448

04 PERSON RESPONSIBLE FOR ASSESSMENT  
Sherry Gernhofer

05 AGENCY

06 ORGANIZATION  
PRC

07 TELEPHONE NUMBER  
(703) 883-8888

08 DATE  
06/12/92  
MONTH DAY YEAR

**ATTACHMENT B**

**VISUAL SITE INSPECTION SUMMARY AND PHOTOGRAPHS**

## **VISUAL SITE INSPECTION SUMMARY**

**Titanium Metals Corporation of America  
Toronto, Ohio  
OHD 098 435 134**

**Date:** March 3, 1992

**Facility Representatives:** Harry L. Turic, Manager of Engineering (614) 537-5775

**Inspection Team:** Sherry Gernhofer, PRC Environmental Management, Inc. (PRC)  
Paul Wooldridge, PRC

**Photographer:** Sherry Gernhofer, PRC

**Weather Conditions:** Winds were calm; skies were partly cloudy; temperature was in the mid-40s

**Summary of Activities:** The visual site inspection (VSI) began at 9:05 a.m. with an introductory meeting. The inspection team discussed the purpose of the VSI and the agenda for the visit. The Timet representative then discussed the Timet facility's past and current operations, solid wastes generated, and release history. Most of the information was exchanged on a question-and-answer basis. The Timet representative provided the inspection team with copies of documents requested.

The VSI tour began at 9:55 a.m. The tour started with an inspection of one of the active acid storage areas (SWMU 4). The inspection team was then led inside through the bar finishing and forge shop, to observe the actual processing of the titanium ingots. The team was shown some of the baghouses (SWMU 3) and the two inactive acid storage areas (SWMUs 7 and 8). The inspection team noticed large amounts of spilled oil and titanium swarf (AOC 1) along the northeastern perimeter of the property. The Timet representative indicated where the former drum storage area (SWMU 6) was located and where the location of the four excavated 20,000 gallon underground storage tanks were located. The tour continued outside along the eastern perimeter of the property; the inspection team was led to the second active acid storage area (SWMU 5). The inspection team went indoors, through the strip mill, and was shown the remaining baghouses (SWMU 3). The tour concluded with an inspection of the drum storage area adjacent to the maintenance building (SWMU 1) and the drum storage area (SWMU 2) on the southwestern portion of the facility. In addition, the inspection team noticed numerous stray drums stored throughout the boundaries of the property (AOC 2). The tour concluded at 11:55 a.m., after which the inspection team held an exit meeting with Harry Turic. The VSI was completed and the inspection team left the facility at 12:20 p.m.





Photograph No. 1  
 Orientation: Southeast  
 Description: Drum storage area 1

Location: SWMU 1  
 Date: 03/03/92



Photograph No. 2  
 Orientation: Southeast  
 Description: Drum storage area 1 (notice fence around the perimeter)

Location: SWMU 1  
 Date: 03/03/92



**Photograph No.** 3

**Orientation:** Southeast

**Description:** Drum storage area 1 (notice plugged drain in center of photograph)

**Location:** SWMU 1

**Date:** 03/03/92



**Photograph No.** 4

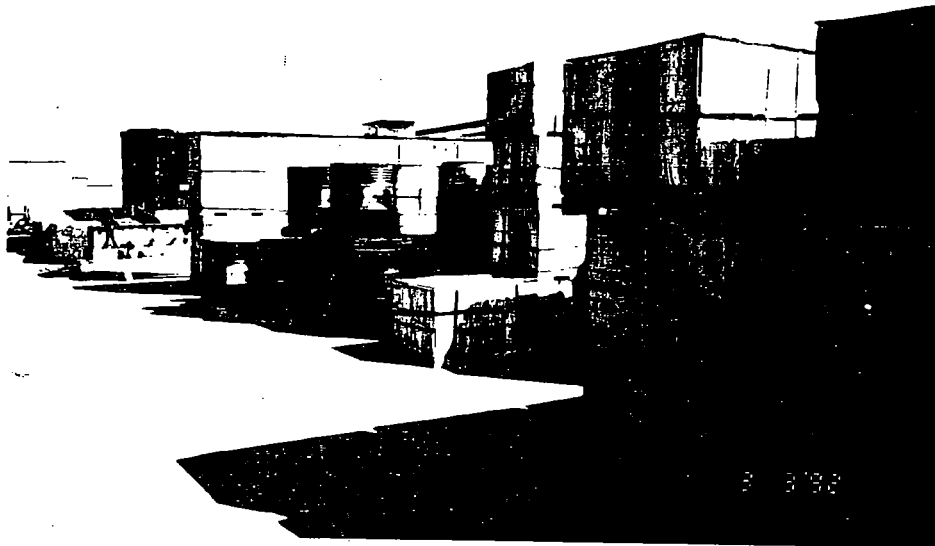
**Orientation:** Southwest

**Description:** Drum storage area 2

**Location:** SWMU 2

**Date:** 03/03/92





**Photograph No.** 5  
**Orientation:** Northeast  
**Description:** Drum storage area 2 (wooden crates of scrap titanium)

**Location:** SWMU 2  
**Date:** 03/03/92



**Photograph No.** 6  
**Orientation:** Southeast  
**Description:** Drum storage area 2 (bins of titanium swarf)

**Location:** SWMU 2  
**Date:** 03/03/92





**Photograph No.** 7  
**Orientation:** South  
**Description:** Drum storage area 2 (spilled swarf)

**Location:** SWMU 2  
**Date:** 03/03/92



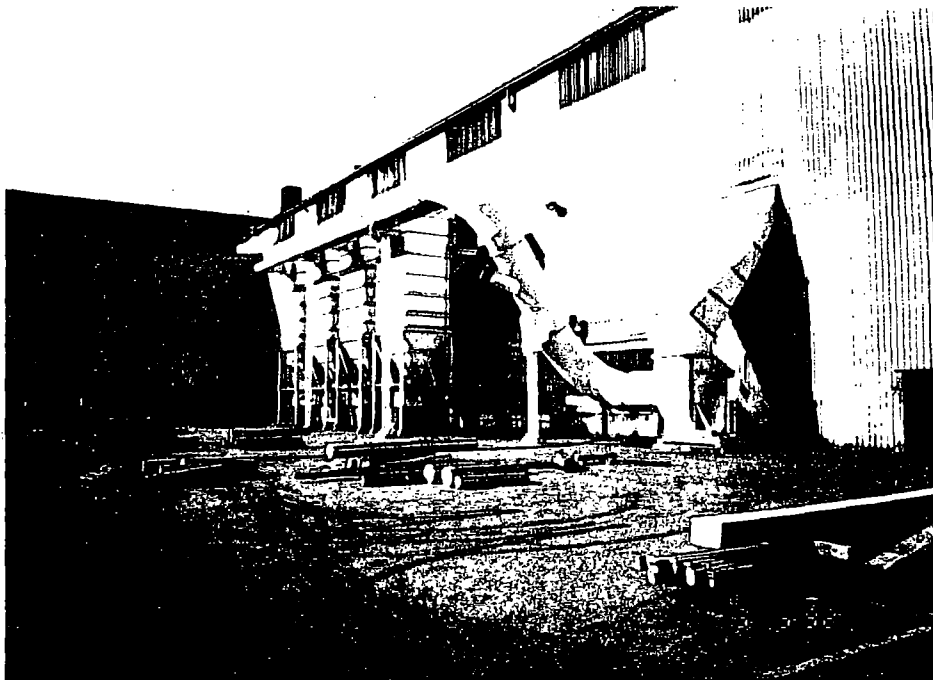
**Photograph No.** 8  
**Orientation:** Northwest  
**Description:** Drum storage area 2 (notice brown substance seeping down the sides of the drum)

**Location:** SWMU 2  
**Date:** 03/03/92



**Photograph No.** 9  
**Orientation:** Southwest  
**Description:** Baghouses inside the northern portion of the forge shop

**Location:** SWMU 3  
**Date:** 03/03/92



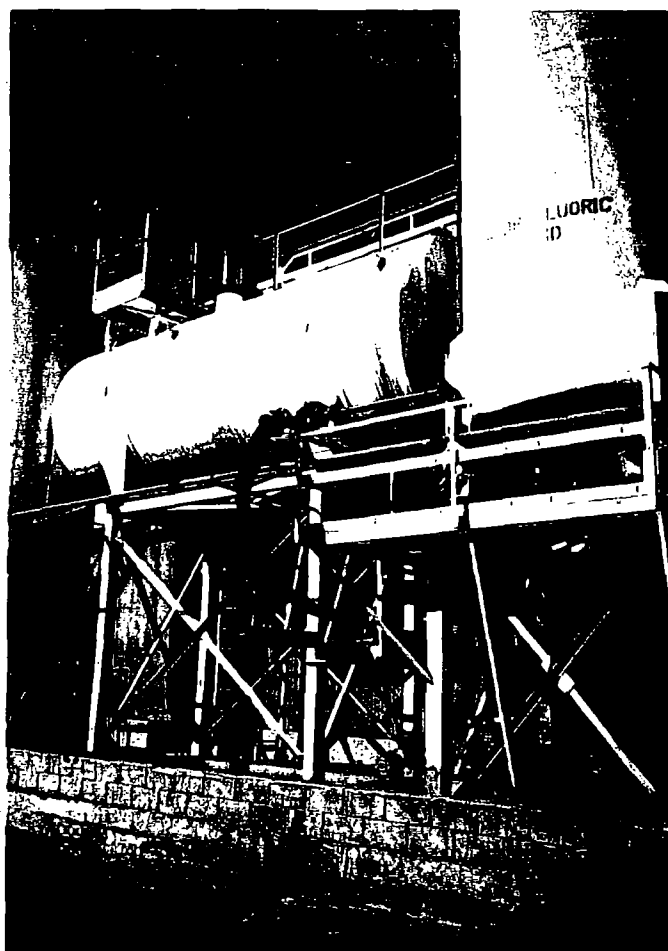
**Photograph No.** 10  
**Orientation:** Southwest  
**Description:** Baghouses on the north end of the bar finishing building

**Location:** SWMU 3  
**Date:** 03/03/92



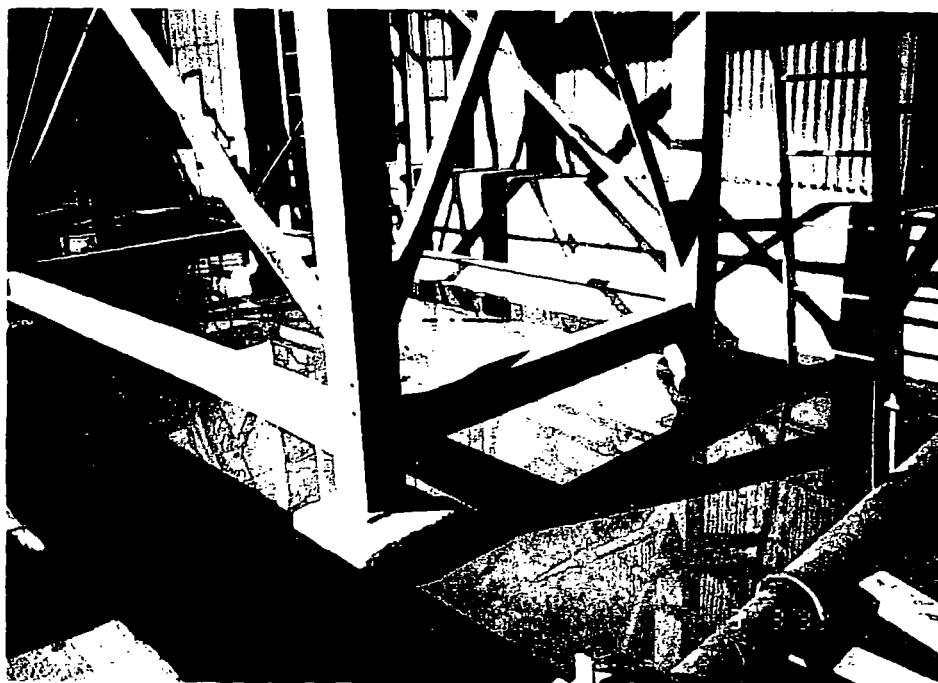
**Photograph No.** 11  
**Orientation:** Northwest  
**Description:** Portable steel hoppers used to collect and transport baghouse dust

**Location:** SWMU 3  
**Date:** 03/03/92



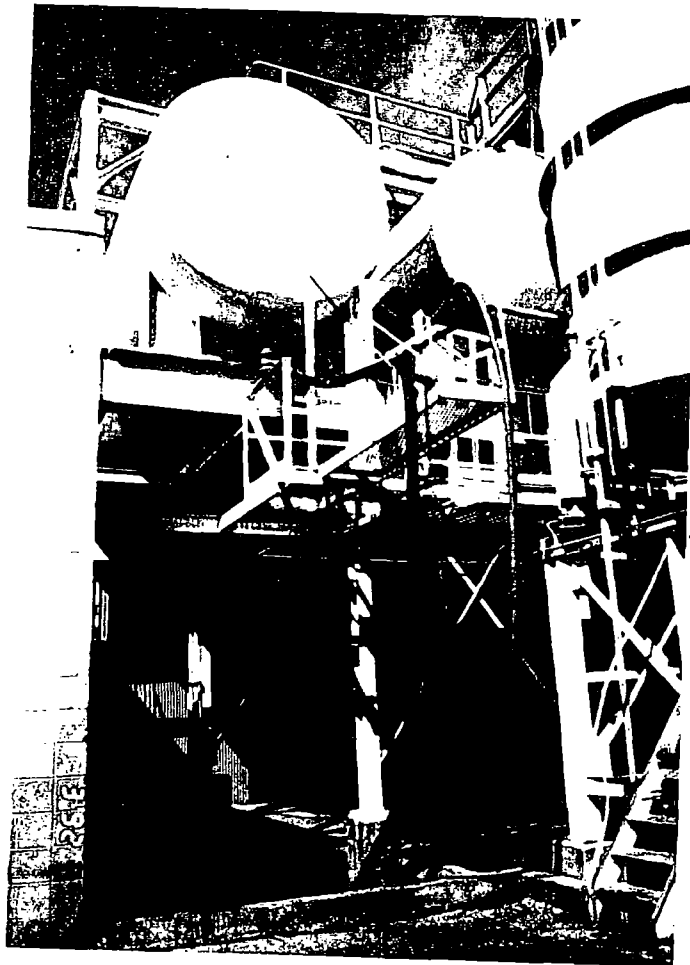
**Photograph No.** 12  
**Orientation:** Southwest  
**Description:** Spent acid storage tank 1

**Location:** SWMU 4  
**Date:** 03/03/92



**Photograph No.** 13  
**Orientation:** Northwest  
**Description:** Secondary containment under spent acid storage tank 1

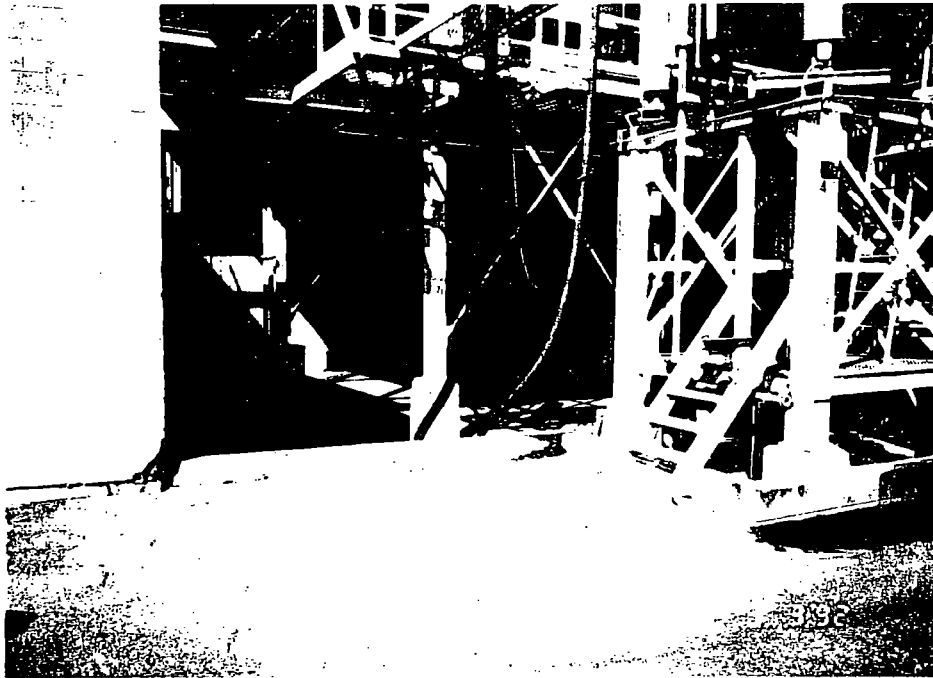
**Location:** SWMU 4  
**Date:** 03/03/92



**Photograph No.**  
**Orientation:**  
**Description:**

14  
Southwest  
Secondary containment under spent acid storage tank 2

**Location:** SWMU 5  
**Date:** 03/03/92



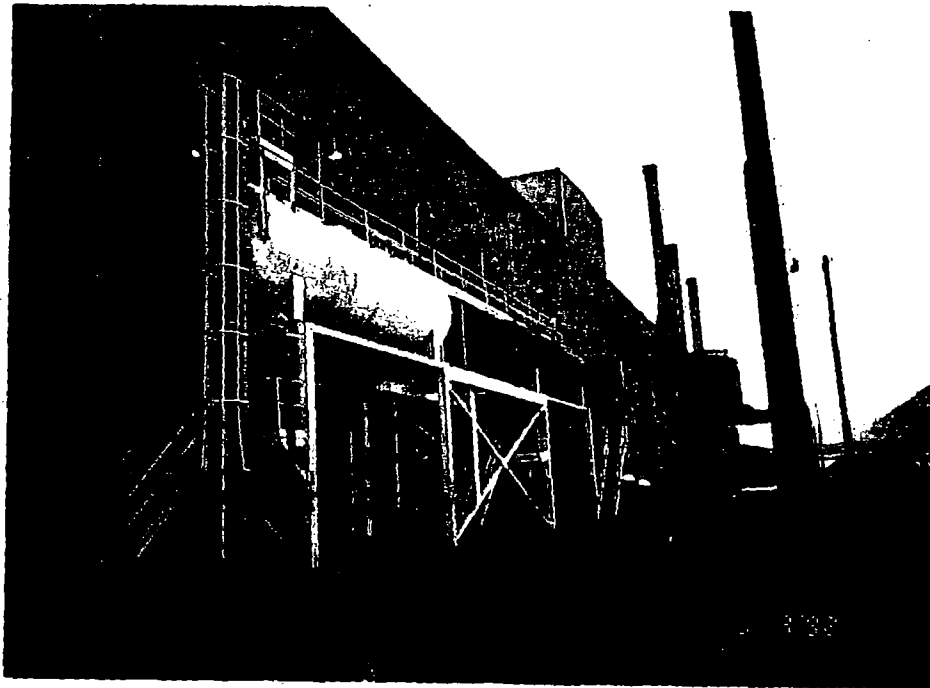
**Photograph No.** 15  
**Orientation:** Northwest  
**Description:** Secondary containment under spent acid storage tank 2

**Location:** SWMU 5  
**Date:** 03/03/92



**Photograph No.** 16  
**Orientation:** Southeast  
**Description:** Approximate location of the former drum storage area  
 (notice drain in left corner of the frame)

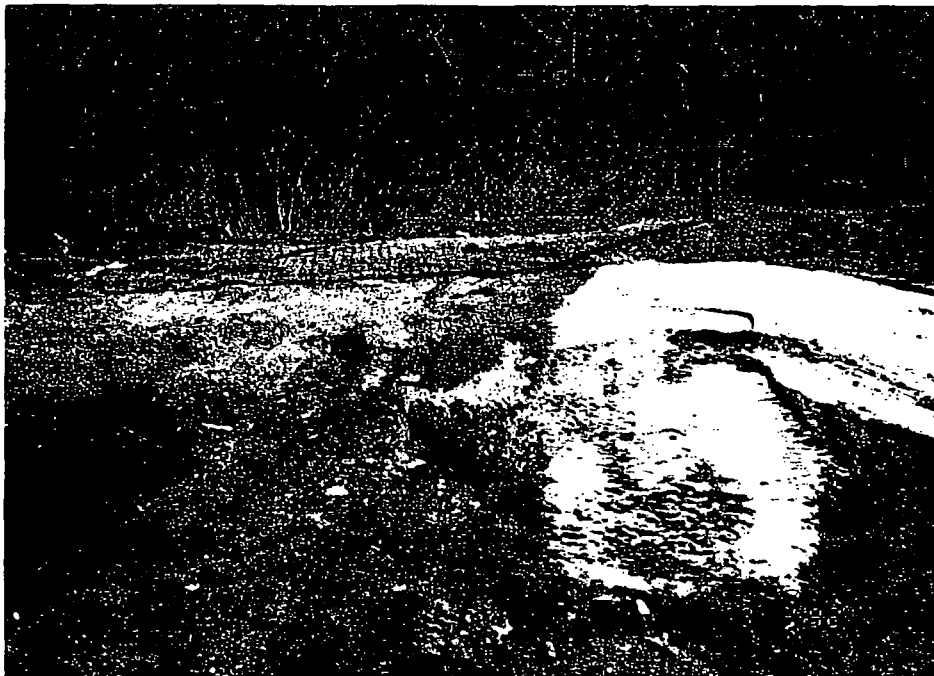
**Location:** SWMU 6  
**Date:** 03/03/92



**Photograph No.** 17  
**Orientation:** Southeast  
**Description:** Former spent acid storage tank 1

**Location:** SWMU 7  
**Date:** 03/03/92





**Photograph No.** 18 **Location:** AOC 1  
**Orientation:** East **Date:** 03/03/92  
**Description:** Spilled swarf and waste oil along the eastern perimeter of the facility



**Photograph No.** 19 **Location:** AOC 1  
**Orientation:** Southeast **Date:** 03/03/92  
**Description:** Spilled swarf and waste oil along the eastern perimeter of the facility



**ATTACHMENT C**  
**VISUAL SITE INSPECTION FIELD NOTES**

28

Aug

03-04-92 <sup>3 SMS</sup>

Titanium Metals Corporation

Harry L. Turic  
Manager of Engineering100 Titanium Way, P.O. Box 309  
Toronto, Ohio 43964

First in Titanium Worldwide

(614) 537-5775  
FAX (614) 537-5795

*Sherry Gemhofer*  
*08-03-92*

Aug

03-03-92

29

Titanium Metals Corp  
(TIMET)

Pke Representatives:

Paul Woodbridge

Sherry Gemhofer

TIMET Representative

Harry Turic, Manager  
of EngineeringArrived at facility at  
09:05Skies are partly cloudy,  
mid 50°F

met with Harry Turic,  
Paul Woodbridge explained  
purpose of inspection and  
areas we would like to see  
Facility History

used to be LGG, generated  
90,000 - 1,200,000 spent  
acid (D002)



30 Aug 03-03-92

- This bad waste stream  
is longer in existence -  
#1 container could be  
Tern induces the  
Potassium thionium  
sulfate to ~~act~~ as  
a feed stock (w/ bag waste)  
- Tanks stored sedn  
from picking operation -  
emptied 1 2/yr and  
1-2/wk (different  
fruit covers)  
- Titanium input waste  
in Nevada, shipped  
here for fuming, etc.  
picking, filling, etc.  
the waste, chemical  
processes occurring,  
more mechanical)  
Aug

03-03-92 31 Aug

- Tank farms (4) formerly  
had 1 bag. waste tank  
each + other not-bag.  
Nothing tanks (product)  
- Tanks remaining (not in  
use not in use to be  
recovered this summer,  
but not been cleaned  
out yet.  
- Gravel put on 1 tank  
farm area, other tank  
farm was not back  
upgraded yet, which  
left expanded (as a  
splash guard)  
- former bag waste stream  
now considered a feed  
stock (but some  
compositing)  
Aug



- 03-03-92  
 May
- Leaching/leaching area  
 now upgraded w/ a  
 liner, still in use
  - No closure plans for  
 inactive tank farms  
 to be submitted  
 - 4 UST used to exist  
 at clean storage area  
~~located~~ on section  
 part of facility, were  
 removed in 1990 (copy  
 report submitted)
  - RELEASES
  - Nitric acid spill?  
 (Hany Tung unaware of  
 specifics, will have to  
 ask)
  - The collecting tank  
 discontinued in 195

May

- 03-03-92  
 May
- Contaminated soil (water  
 at and TE) Hany Tung  
 says area is asphalted  
 - Ifritium (small) =  
 material generated  
 from grinding operation  
 - NPD's permit  
 sampling was done  
 regarding, discontinued  
 due to a streaks in  
 loads, of the defect  
 in CN
  - 6 Outfalls  
 001, 002, 003, 004, 005  
 006 - permitted for 006  
 Outfalls (01, 002, 003  
 discharging to Porto  
 river - to Chu River,  
 004, 005, 006 discharging  
 directly to Chu River



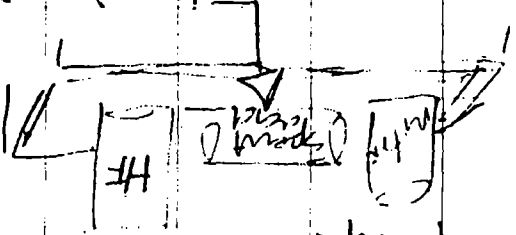


03-03-92

smg

- Kell sludge no longer separated - associated with a Kelluke operation (Picking) - discontinued on 6/91
- current PERA status - generate no long waste
- 5 wells on property - all process wells, used to be used for drinking water (this continued in 1983)
- numerous air permits - primarily for grinding operations
- Begin one ton of D.O.S. that 75% of fuel product used in aircraft industry (engines, wings)

- drains w/ facility connect to storm sewer
- Mito 1 - 2° containment under spent acid tanks
- Mito 2 - spent acid tanks (no product), HF tank, Nitroz acid



new product

- plan to build a water facility to treat the

from pickling lines to be 55 gal/hr - waste. It is currently goes to line neutralization beds and is discharged to outfalls

03-03-92

smg



36 Aug

03-03-92

joined by John Blabac of TIME, along to take photos

- 2nd 1200 transformer removed, taken off site

Photo 3

former pickling operation no longer in use.

Photo 4

former large pickling operations.

Photo 5

former tank farm, to be decommissioned

spontaneous combustion

Photo 6 (5 bag house units)

bag house - collects titanium dioxide,

Aug

03-03-92

37

disposed of off site in landfill

Photo 7 (1 bag house unit)

Photo 8 - former location

of 1-20,000 gal. USTs

Photo 9 - location of former

uranium storage area identified by OPA

Photo 10

dry grinding swarf (titanium dioxide)

distinguished from wet swarf which is just

titanium - no release

controls along fence,

run-off could easily discharge to adjacent river

- titanium operations began in 1955

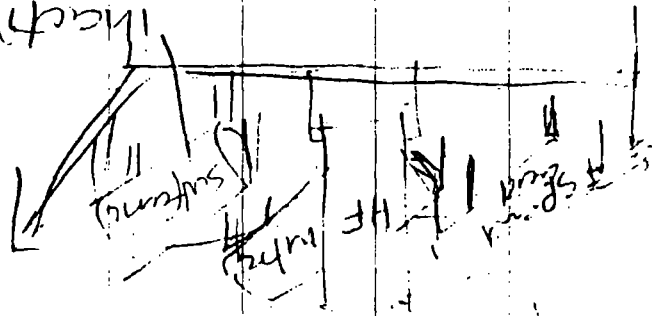


38

smg

03-03-92

- photo 11 - active tank  
 - tank - 4 tanks full



- photo 12 - 2° containment  
 at active tank from  
 2 more bag houses  
 noted (11 to 12)

- active packing operations -  
 HF/acid bath from  
 to a more bath  
 photo 13 - draw, used  
 to discharge 150 gpm  
 through line bed and  
 discharge to outside  
 smg

39

03-03-92

smg

- all tanks and 2° contain-  
 ment scanned in good  
 condition. No leaks  
 noted in 2° containment  
 - photo 14/15

bag house keeper  
 storage - spent here

bag house taken off site  
 - photo 16/17

line neutralization bed  
 (active) with water

after bed and one  
 discharged to outfall -

will be dismantled -  
 6/92 - water will be

directed to new water

facility.  
 - clean-out force surrounds  
 perimeter  
 smg



03-23-92

Sms

is shipped back to barge  
manufacturer

photo 14

Scrap Hauler - shipped  
back to Nevada to be  
welded down

- another drum storage area  
identified in previous  
facility diagram) concrete  
pad, no diking, no fence

- facility tour concluded  
at 11:55

- Documents requested:

(1) EPC final design - a

recycling waste stream

(2) facility diagram

(3) "block" diagrams of  
process

(4) list resource

(5) NINE and spill

03-23-92

Sms

- M-git security, 24-hr  
surveillance, including  
cameras

Photo 18 (note noted contains  
drum storage area)

all drums near this  
area have been plugged

drums in this area

have waste oil, kerosene,

lubricant - no diking

- photo 19/20 drum storage,

note drum in bottom

of frame

photo 21

(inner drum storage

(access from current

drum storage) - steel

waste oil

- photo 22/23 drum storage

Scrap Hauler - which  
some





42 2008 03-03-92

-Documents Requested - cont'd  
(6) copy of site inspection report (performed 3 yrs earlier)

(7) NPDES permit  
(8) well logs  
(9) Air permits

(10) schematic of future LWT facility  
(11) name of titanium dioxide handler and landfill

-Documents not obtained during site visit with DE Fed Ex'd

1300 (13) back to 5 end of site to take photos of former drum storage area 2 photos taken - one of

43 2/3/92 RJ

former BSA facing S. - S.W.A.R.F. to improve about Joe & Mrs. Henry T. indicated that was wet "sandy" - ~ 60-70% water and wet ground titanium.

"the photo taken along E side of former BSA (barings) above retained ground on E side of area in between RR apron.

1310

observed other drums about on 13 side of paved area on S. end of site; drums that are not labeled allowed next to fence 2-3 drums were uncovered photo: 2 uncovered drums



1220 10/15/56 offsite  
 12" water on top, only  
 when  
 Harry T. indicated he  
 did not know content,  
 but likely to be  
 aluminum paint  
 One other unmarked drum  
 (1145) appeared to  
 contain grease of some  
 kind - drum was marked  
 and gone was on side  
 and ground.  
 Several drums stored in  
 this area.  
 Harry T. indicated that  
 he had not gotten around  
 to buying the new nest.

P. W. 10/15/56

Indenture  
 10/15  
 Blank

